

Model 3000 & Access 4000

PROGRAMMING, APPLICATIONS AND REFERENCE MANUAL

P/No: 631022

FOR UPDATES:

Check the Website regularly for:

- New documents to be added to this manual.
- Updates and/or changes to existing documents.

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Current Document Revision numbers.

Revision number relates to the Control Module Firmware Version when the document was last changed.
e.g. No changes have been made to "Area List programming" (MENU, 2, 3, 1) since V3.0 release.

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Disclaimer

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It is our intention to completely satisfy the requirements of our customers. To that end, Inner Range Pty Ltd stands behind its products with confidence. A Two Year Warranty accompanies every Inner Range Concept product. Should any Concept product fail to function as intended by the manufacturer within this period, it should be returned to the distributor and the fault or symptom detailed. Inner Range will, at its own discretion, repair or replace the product as soon as possible.

This Warranty does not cover product failures occurring wholly or in part as a result of misuse, malicious damage, accidental damage or acts of nature.

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Model 3000 / Access 4000

SYSTEM OVERVIEW & INTRODUCTION TO PROGRAMMING

This section provides both an overview of the programming structure of the system along with specific information about identifying items to program, selecting and identifying options, configuring the LAN and using the LCD Terminal.

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SYSTEM OVERVIEW

System Hardware

The system utilizes different types of modules to achieve the expandability and the broad range of functionality it offers. Several of the modules also have additional expansion and interface board options to further enhance their capabilities.

Modular Design & Expandability.

Modular hardware design provides the ability to adapt and expand the system to cater for virtually any configuration or application required - small or large. Large numbers of LCD Terminals, Input/Output Expanders and Reader Modules can share a secure, monitored LAN system utilizing a fast, efficient communications format. Up to 250 modules can be connected on the system, with a limit of 99 modules of any particular type. (Actual numbers of each module type varies with Memory size and configuration selected) With the current range of modules available, this arrangement can provide up to 2000 Zone inputs and hundreds of Auxiliaries on a single system with 512k Memory Expansion fitted.

System LAN.

The system LAN (Local Area Network) is a 3 or 4 wire network used to connect the modules in a system. Using the recommended cabling, modules on the LAN can be installed up to 1500 metres from the Control Module, or even further when LAN Isolators or Optical Fibre modems are used.

Data protection ensures secure LAN communications, while the programmable supervisory reporting system continuously monitors the network to detect cable tamper, cable fault conditions, module off-line and module substitution. The data format used in the LAN has been developed to ensure fast, reliable communications regardless of the size of the system.

For larger systems and complex sites, LAN Isolators are used to provide opto-isolation between sections of the LAN, eliminate potential earth loop problems, improve surge protection, provide signal level restoral for improved performance over longer cabling distances and offer a monitored "loop" LAN wiring option for a higher level of LAN integrity.

The Modules.

- The heart of the system is the **Control Module**. This unit stores all data, communicates with all other modules connected to the system LAN, and reports alarms and system activity to the Central Station. The Module has on-board power supply and battery charger and connections are provided for 16 Zone Inputs, 2 Siren Drivers and 2 Auxiliary outputs (expandable to 10).
- To operate the system and edit databases an **Elite LCD Terminal** is normally used. The LCD Terminal provides a 20 key backlit keypad, a backlit Liquid Crystal Display and connections for several Zone Inputs and Auxiliary outputs.
- **Zone Expanders** are used to provide 16 or 32 additional Inputs, 2 Sirens and 8 to 32 Auxiliaries, and can be installed remotely in suitable locations to greatly reduce the amount of cabling required to detectors and output devices.
- **8 Zone Mini Expanders** also provide additional Inputs (8) and Auxiliaries (8) as well as providing special input processing options for Event Counting and Duress/Holdup buttons.
- **1 Door and 2 Door Access Modules** are installed near the Door/s to provide Reader interfacing and up to 10 Inputs and 8 outputs (2 Door Access Module, 995012), including lock relays, for complete Door monitoring & control. In the rare event of loss of communications, Door Access can be provided for 15, 31 or 127 "Backup Card" holders.
- **Intelligent 4 Door Access Modules** are installed near the Door/s to provide Reader interfacing and all necessary Inputs and outputs, including lock relays, for complete Door monitoring & control. In the rare event of loss of communications, the on-board database ensures that normal Access control operation is maintained and logged.
- **Analogue Modules** provide an interface to monitor analogue quantities from up to 4 independent sensors allowing values to be viewed, and events activated when values exceed or drop below programmable trigger points.
- **LAN Power Supply Modules** provide flexible, general purpose, battery-backed power supply solutions with the added advantage of immediate status reporting of Power Supply conditions and problems via the LAN network.

System Management.

Upload/Download software is available for system Programming and Management, allowing the option of local or remote connection with operator password protection. DOS based PCDirect supports all versions up to V4.0. WDirect is Windows based and supports V3.0 and later. (WDirect support for earlier versions to be added)

ACCEPT, the Windows based system management software, incorporates dynamic graphics capabilities and is available for use with the 3000 (V3 or later) and Access 4000 (V2 or later).

Alarm System

Introduction

Areas

Security management operation is designed around the concept of Areas. Areas are groups of Inputs (points) such as movement detectors that can be collectively enabled when the Area is turned on or disabled when the Area is turned off. The system determines which Areas each User can control during which times and with which options.

Inputs

An Area can contain one or more detection devices or other devices (wired to Zone Inputs) and/or one or more System Inputs. If a Zone detects an intruder or a System Input is activated (e.g. Low Battery, Cabinet Tamper, etc.) it will only be actioned if the Area that the Input is in, is turned ON. The action which is taken when an Input is activated in a particular Area (e.g. activate Siren/s, activate Auxiliaries, report to Central Station, etc.) is determined by how that Input is programmed in that particular Area.

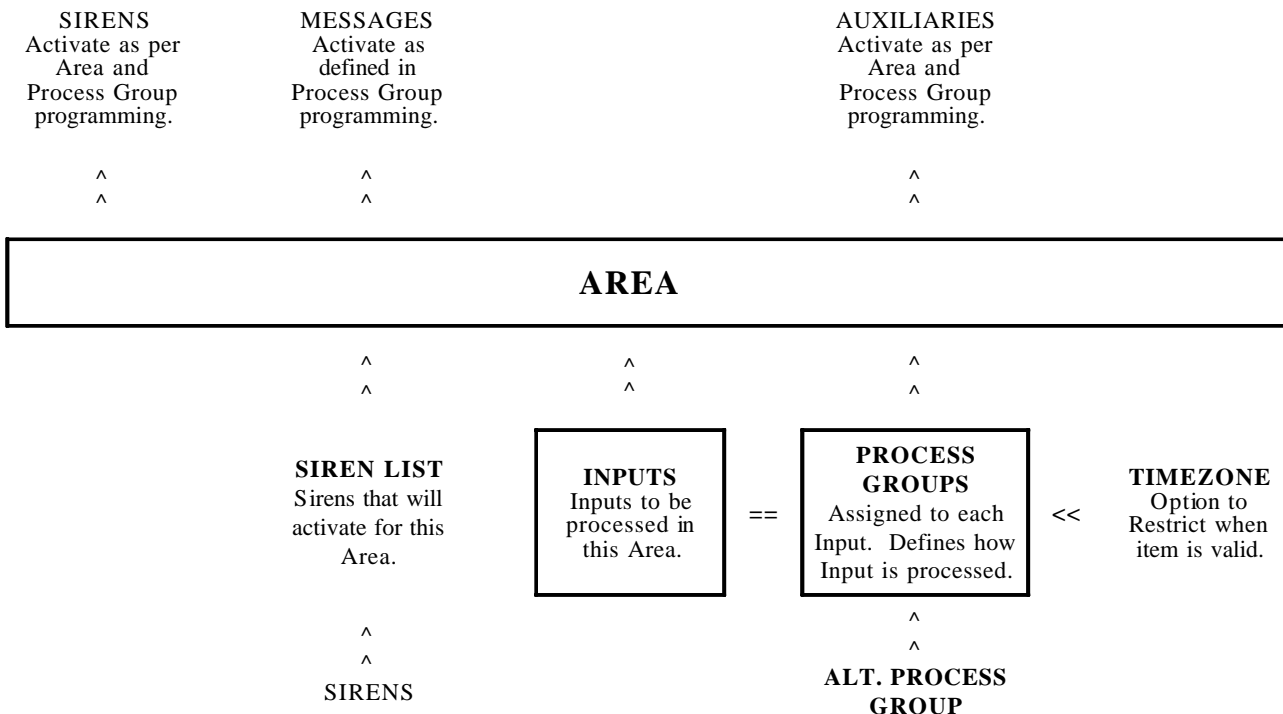
An Input can be programmed into more than one Area. The Alarm action taken by an Input when in the Alarm condition is dependent on how that Input is programmed in each Area, and on the Area/s being turned ON.

This allows a particular Input alarm to be actioned in different ways depending on what Areas it is assigned to, and which of those Areas are ON.

Process Groups

Defining how an Input will be actioned in each Area is primarily done by allocating an appropriate Process Group, to every Input in each Area that it is assigned to. Process Group programming includes defining the Input states (Seal/Alarm/Tamper/Isolate) that will be recognised, Entry/Exit delay processing options, Reporting & message options, and Auxiliary and Siren control options.

The chart below shows how Area and Process Group programming will determine how the Input/Output items such as Inputs, Sirens and Auxiliaries will be processed.



NOTE: The Expanders, LCD Terminals and Reader Modules fitted and programmed into your system will determine:

- the Zone Inputs and System Inputs that will need to be programmed and assigned to Area/s,
- the Siren Outputs available for inclusion in the Siren Lists
- the Auxiliaries available that can be assigned to Area actions and functions.

Access Control

Introduction

The “3000” & “Access 4000” products integrate Access Control, Security Management and Building Automation. Access Control functionality and Building Automation operations can be kept completely separate from Security Management or can be fully integrated, if desired. Access Control operation is designed around the concept of **Doors**. The system simply determines which Users are allowed to use which Doors, at which times and with which options or restrictions.

Security Management operation is designed around the concept of **Areas**. Both Access Control and Security come together at Doors. For each Door in the system, one side is defined as the “outside” Area and the other side as the “inside” Area. Each Door can optionally be programmed as to which Area is on the outside and/or inside of the Door. If Area/s are programmed at a Door, then access at that Door will also be controlled by security considerations (via Areas).

- e.g.
- 1) A User requiring access at a Door may be denied access because the Area they are about to enter is turned on, and they are not allowed to turn that Area off. If the User was allowed to turn that Area OFF then this may be done automatically on un-locking the Door, if programmed.
 - 2) A User requesting access at a Door may be denied because the system has not seen the User leave the Area they are attempting to enter (Anti-Passback).

Basic Concepts

Doors

When designing an access system, Doors are the logical place to start. Each Door is numbered from Door 001 (D001), to the maximum available on your system. (Up to 250) Each Door is individually programmed to define the functionality (via an Access Group) and the related Area/s, Auxiliaries and Timers, etc.

Access Modules (Single Door, 2 Door & Intelligent 4 Door)

These Modules are required whenever access Cards are required, such as Proximity, Wiegand, Mag swipe, etc.

-Single Door Access Modules can control 1 Door with an Entry Reader.

-2 Door Access Modules can control either 1 Door fitted with Entry and Exit Readers OR 2 Doors with Entry Readers.

-Intelligent 4 Door Access Modules can control 4 Doors with Entry and/or Exit Readers for all 4 Doors.

Each Access Module is individually programmed to define the Door/s controlled, Off-line operation, Zone input and Auxiliary options, Area control options and the direction (in or out), format, read mode, etc. for each Reader.

LCD Terminals

LCD Terminals can be used for Door Access Control if access to a Door is to be gained via a PIN code. Each Terminal may be individually programmed to define the Door controlled, Zone input & Auxiliary options & the direction (in or out).

Access Groups when Applied to Doors

Access Groups are a set of options that can be applied as a group to a Door. The typical system may have up to 32 Access Groups (depending upon system configuration) and each group may be individually programmed. A Door is assigned one of these Access Groups to use in determining the basic access control at the Door. The basic options that can be programmed for each Access Group are the modes of operation for Entry and Exit readers, Anti-passback options, REN/REX button options, Area control options, etc.

TimeZones

TimeZones are a set of time periods that define when that TimeZone is valid. At all other times the TimeZone is in-valid. Once a TimeZone is programmed it can be used by any programming item that needs to be made Valid/Invalid according to the time of day and/or day of the week. A TimeZone, once programmed, can be assigned to more than one item.

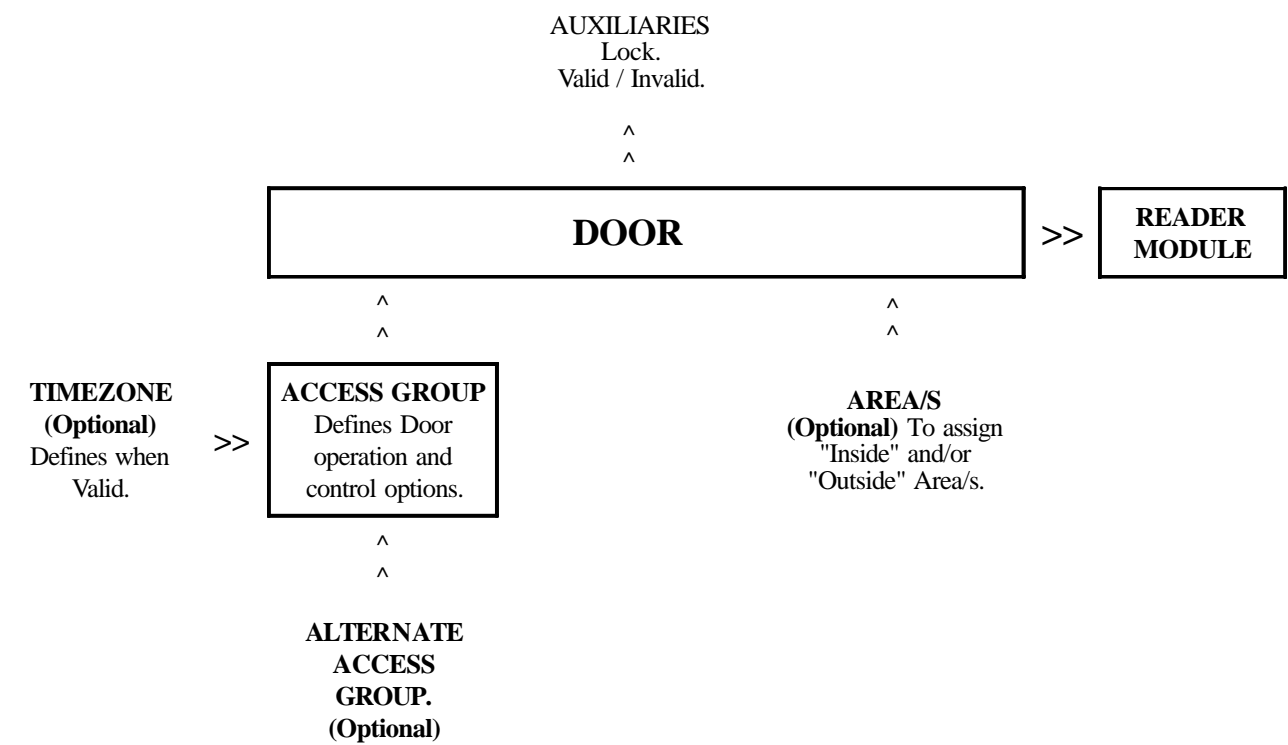
Alternate Access Groups

If a TimeZone is defined for an Access Group and the alternate Access Group is set to 000, no access will be granted when the TimeZone is in-valid. However, if an alternate Access Group is chosen, then instead of no access being granted, the settings of the alternate Access Group will be used to determine access.

Holidays

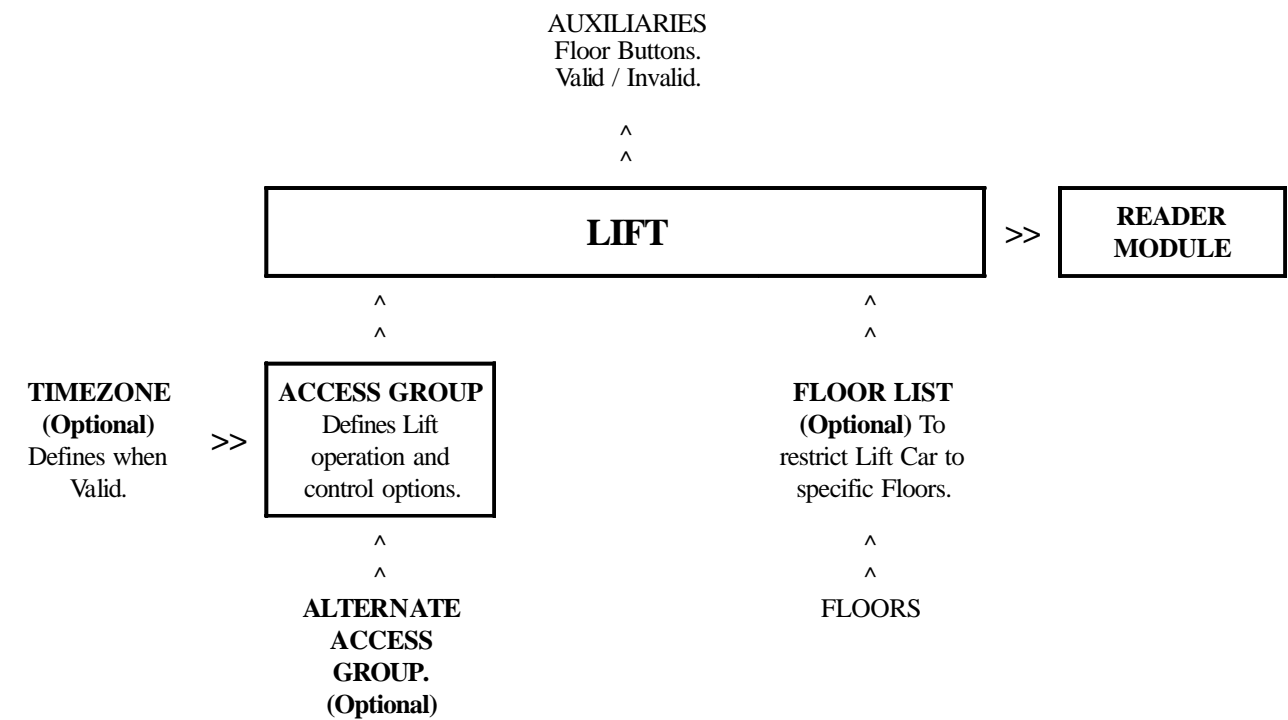
A holiday comprises a start date and an end date and is used to set specified TimeZones in-valid when a holiday occurs. Each holiday can be defined as to which TimeZones it will effect.

The chart below shows how Access Groups form the basis of Door programming and how security is integrated into the access control system through the assignment of Areas to Doors.



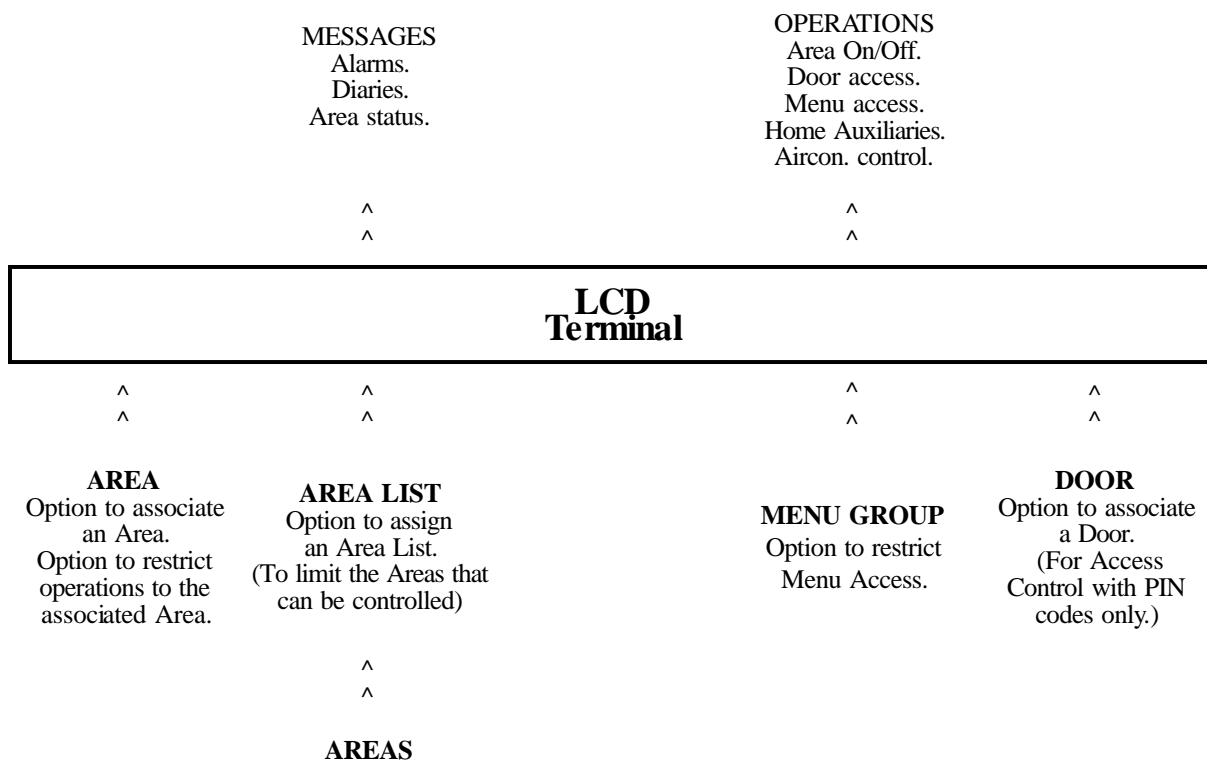
Lifts

Lifts are programmed in a similar manner to Doors. Each Lift is numbered from Lift 001 (L001) to the maximum available on your system. Each Lift is individually programmed to define the functionality (via an Access Group) and the related Auxiliaries, Zone Inputs and Timers, etc.



LCD Terminals

LCD Terminals are used to turn ON and OFF Areas, view System status, review system activity and access Menu options. Additionally they can be used for access control where PIN numbers are going to be used to control access through a particular Door. Each LCD Terminal can control one Door and is individually programmed to define the Door controlled, direction (in or out) and Zone Input options, etc.



User Programming

User programming is the starting point for allowing a person to operate the system. User programming allows options to be defined for each individual User, such as User name, PIN code, Card details, etc. A User Type must also be assigned to define what operations the User may perform and the items that they can control. Two special Users are pre-defined, User 00001 (U00001) is known as the Installer and has special privileges. User 00002 (U00002) is known as the Master and also has special privileges.

Alarm System Control

In a Security system Users are required to perform operations such as turning Areas On and/or Off, acknowledge alarms, review alarm and event information, check the system status and Isolate faulty devices, etc. This normally requires the User to logon to an LCD Terminal using their PIN code then User programming determines which Areas they can control, which operations they can perform and which Menus each User can access.

Access Control

The basic purpose of an access system is to control access through specified Doors for specified Users. An access system may also control access to specific Lift Cars and/or Floors for specified Users. For a User to have any access rights at all, their access permissions must be defined in User programming.

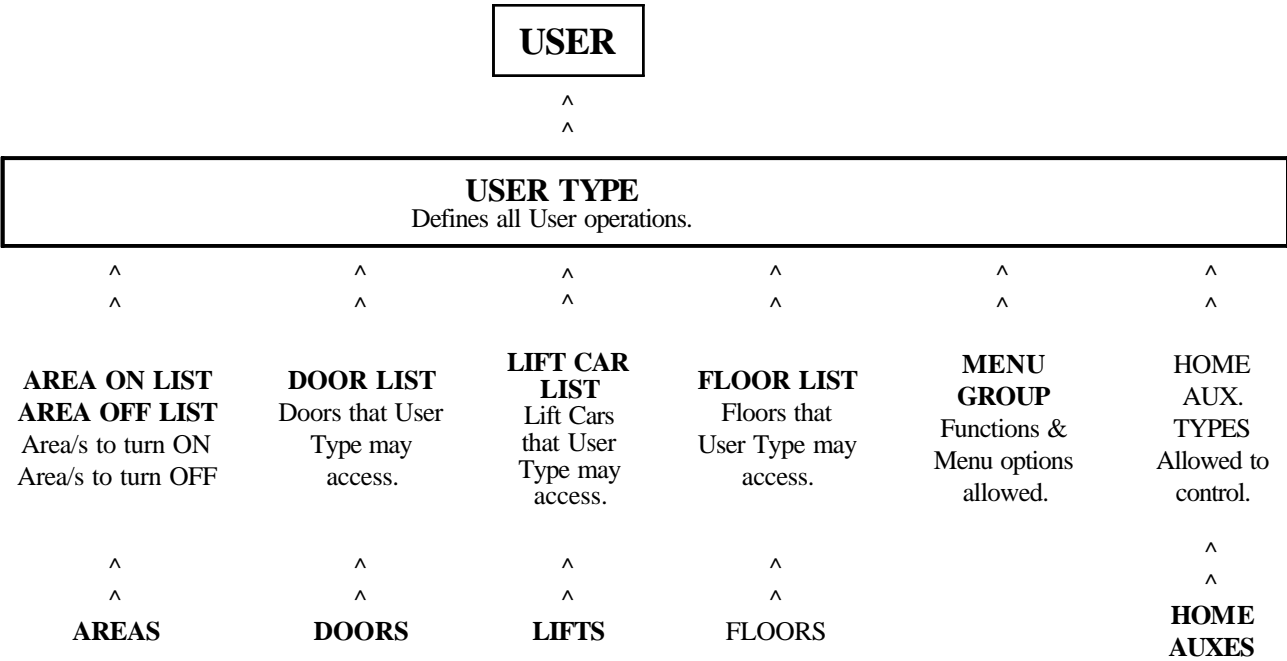
Building Management

When the system incorporates Building Automation functions, Users may be able to logon to an LCD Terminal and manually control specified Auxiliary outputs ("Home Auxiliaries"), adjust TimeZone periods, view Input states, Counter values or analogue values, etc. User programming determines which Auxiliaries they can control, which operations they can perform and which Menus each User can access.

User Types

Users Types are a set of options that can be applied to Users. Each User in the system is allocated a User Type that will determine all access, security and building management permission's for that User. The basic options that can be programmed for each User Type include Area ON and OFF Lists, Door List, Lift Car List, Floor List, Menu Group (to define access to Menu options) and other operational options.

This Flowchart shows how User Types are at the heart of User programming, utilizing other programming such as Lists and Menu Groups to define all the functions that a User may perform. Bold type indicates items that have programmable options.



Alternate User Type

If a TimeZone is defined for a User Type and the alternate User Type is set to 000, Users with that User Type assigned will have no operations or access permissions available when the TimeZone is in-valid. However, if an alternate User Type is chosen, then instead of no permissions, the settings of the alternate User Type will be used to determine the User's permissions.

Alternate Lists and Menu Group

If a TimeZone is defined for a List or a Menu Group and the alternate List/Group is set to 000, the permissions defined by that List/Group will be void when the TimeZone is in-valid. However, if an alternate List/Group is chosen, then instead of no permissions, the settings of the alternate List/Group will be used to determine permissions.

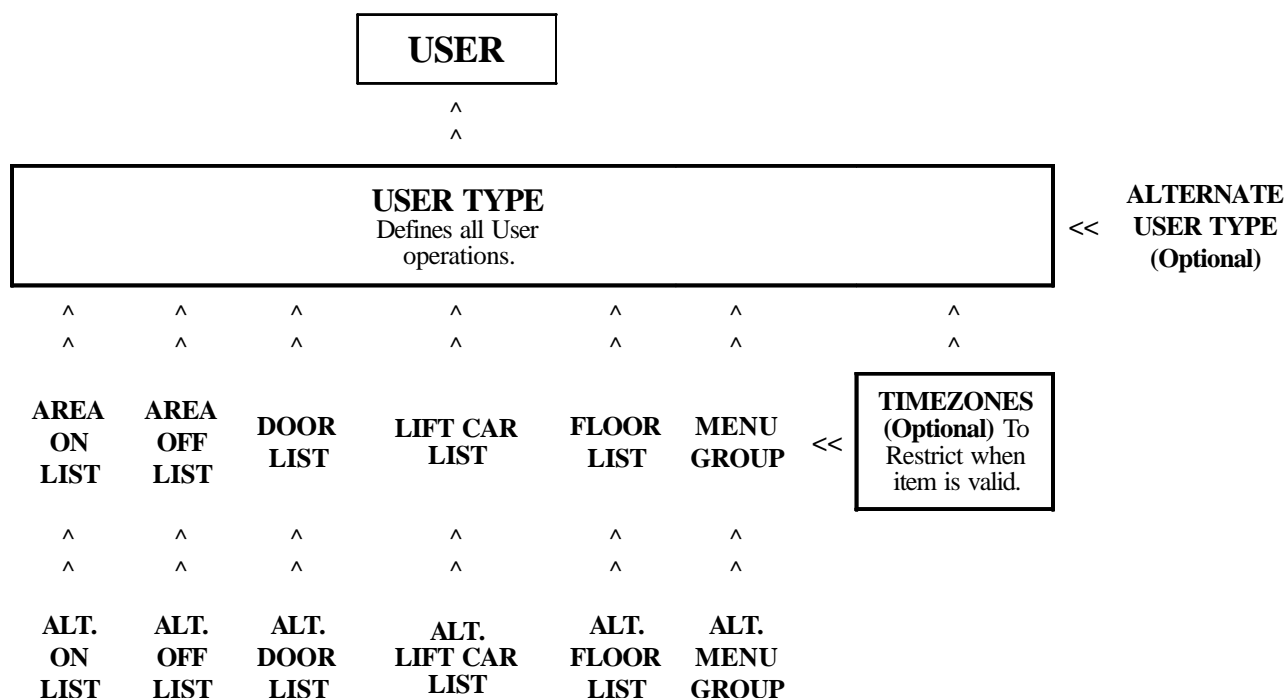
The option to assign a TimeZone and Alternate to each List or Group allows for minor changes in a User Type's permissions (e.g. A change in Door Access permissions only) to be easily implemented. The User Type's Door List can have a TimeZone and Alternate Door List assigned, instead of having to create an alternate User Type.

TimeZones

TimeZones are a set of time periods that define when that TimeZone is valid. At all other times the TimeZone will be in-valid. Once a TimeZone is programmed it can be used by any other programming item that needs to be made Valid / Invalid according to the time or day and/or day of the week. A TimeZone, once programmed can be assigned to more than one item.

The chart below shows how TimeZones can be assigned to:

- User Types to Invalidate the User Type or provide the facility for an alternate User Type to be defined, and
- Individual Lists or Groups, to invalidate the permissions provided by the List/Group or provide the facility for an alternate List/Group to be defined.



Conventions & Abbreviations

When programming the system, many items and databases can be assigned a name to aid in further programming and system operation. e.g. “Entry Foyer” (Area name) or “R&D Laboratory PIR” (Zone name) provide for easier identification than A005 or E03:Z12.

All items and databases have a descriptive ID number for identification. For items that cannot be named, or have not been named, this provides a way of conveniently referring to a specific item.

e.g. T14 = LCD Terminal 14. SL002 = Siren List 2.

A consistent set of abbreviations is used, which allow the installer to quickly locate the item that they wish to program, edit, or service. In the case of physical items, such as Inputs, Auxiliary outputs, Sirens, etc. the ID instantly provides the installer with details of the location of the item.

Module IDs

The system uses external modules on a 3 or 4 wire Local Area Network (LAN) to provide additional Inputs, Outputs, Access Control interfaces, etc. The module types are referred to by a single abbreviating letter:

Type:	Module	Abbreviation Letter
0	Control Module	“C”
1	LCD Terminal	“T”
2	LED Keypad	“K” (Not yet available)
3	Big Zone Expander Module (16-32 Zones)	“B”
4	Reader Module (1 or 2 Door Access Module)	“R”
5	Wireless Network (SpreadNet or Inovonics receiver) -“Virtual” Module connected via UART Port.	“N” (“Was SpreadNet” from V2 to V3.5x Inovonics introduced in V4.)
6	Mini Expander	“M” (V2 or later)
7	Zone Expander Module (16 Zones)	“E” (V2 or later)
8	Intelligent 4 Door Access Module	“I” (V3.5 or later)
9	Analogue Module	“Q” (V3 or later)
10	Geoquip -“Virtual” Module connected via UART Port.	“G” (Under development)
11	LAN Power Supply.	“P” (V4.5 or later)

Two digits (01 to 99) after the module “letter” specify the actual module numbers that the ID is referring to.

For example: T04 is the 4th LCD Terminal module

E27 is the 27th Zone Expander module.

NOTE: There can only be one Control Module per system, i.e. C01.

To refer to an actual item on a module an additional letter is used:

Abbreviation	Item	ID Example	Name Field (Characters)	Example Name
“Z”	Zone Input	E01:Z16	24	R&D Lab PIR West wall.
“S”	System Input	B01:S05	Pre-defined	B01 Low Battery
“X”	Auxiliary output	T01:X02	None	

For example: E03:Z09 refers to the 9th Zone Input on the 3rd Zone Expander Module.

T36:X01 refers to the 1st Auxiliary output on the 36th LCD Terminal.

User and User Type Abbreviations

Abbreviation	Item	ID Example	Name Field (Characters)	Example Name
“U”	User	U00001	16 *	Billy Baxter
“UT”	User Type	UT003	16	Production Staff

* Memory configuration may limit the number of users with name field.

Area and Door Abbreviations

Abbreviation	Item	ID Example	Name Field (Characters)	Example Name
"A"	Area	A001	16	Reception
"D"	Door	D078	16	Rear Fire Door
"LC"	Lift Car	LC001	None	

List Abbreviations

Abbreviation	Item	ID Example	Name Field (Characters)	Example Name
"AL"	Area List	AL001	16	All Areas
"DL"	Door List	DL004	16	Admin. Doors
"SL"	Siren List	SL003	None	
"LL"	Lift Car List	LL008	None	
"FL"	Floor List	FL005	None	
"XL"	Auxiliary List	XL001	16	Strobe Outputs (V2 or later)

Group Abbreviations

Abbreviation	Item	ID Example	Name Field (Characters)	Example Name
"PG"	Process group	PG001	16	Burglary
"MG"	Menu Group	MG002	16	Control Menus
"AG"	Access Group	AG004	16	External Doors

Other Abbreviations

Abbreviation	Item	ID Example	Name Field (Characters)	Example Name or Text
"AC"	Air Conditioning	AC001	None	(V2 or later)
"BC"	Backup Card	BC015	None	
"CA"	Calculated Auxiliary	CA010	None	
"CB"	C-Bus Auxiliary	CB002	None	(V4 or later)
"CR"	Counter	CR001	16	Camera 1 Film (V3 or later)
"CT"	Comms Task	CT001	None	
"DA"	Diaries	DA001	32	Happy New Year from Acme Co.
"DN"	Dynalite Auxiliary	DN001	None	(V4.5 or later)
"DC"	DTMF Control	DC008	None	(V3 or later)
"FZ"	Function Zone	FZ002	None	
"H"	Holiday	H004	16	New Year's Day
"HA"	Home Auxiliary	HA001	16	Pool Pump
"HZ"	Home Zone	HZ001	16	Office PIR (V3 or later)
"IL"	InterLock group	IL001	None	(V2 or later)
"SC"	Site Codes	SC001	None	
"TN"	Telephone Number	TN004	16	XYZ Monitoring
"TZ"	TimeZone	TZ002	16	Night Shift

Programming via the LCD Terminal.

Most programming via the LCD Terminal is done in a “spreadsheet” style. This provides quick and easy access to options by allowing the User to scroll through different options for the same item or the same option for different items.

e.g. You can select a particular Input to program & step through all the options for that Input. Alternately, one particular option may be selected such as “Input name” and the <DOWN> arrow used to step through the name fields of all Inputs.

The “spreadsheet” style programming also allows you to step forward or backward through items or options.

See “*HELP, 9 & HELP, 0*” on the following page for more details.

The uses of the major keys are listed below:

Key	Use of Key
Up Arrow	Selects the same question for the previous item.
Down Arrow	Selects the same question for the next item.
Left Arrow	Moves cursor to left or, if at the start of a field, selects the previous question for the same item.
Right Arrow	Moves cursor to the right or, if at the end of a field, selects the next question. In a multiple choice question screen, scrolls through the available options.
OK key	Saves the current screen and moves to the next question.
END key	Saves the current screen and exits the menu.
ON key	This key selects different modes for answering a question if available. E.g. Switches between ID field and Alpha-search field to enable selection of an item by ID number or by name.
OFF key	This key is used to clear the screen before entering an ID number or text. or, in the case of a multiple choice question, selects the first option.
HELP key	This key displays help about the item being edited. Up to 3 help messages may be available, selected by pressing the HELP key again.
MENU key	This key is used to gain access to the menu. PIN code & <OK> must be entered first or while logged off (PIN code & <OK> <u>not</u> entered) <MENU>, <1> will display alarm review, (V3 or later only) and <MENU>, <2> will display system specifications. (Note: In V2 or earlier, only the <MENU> key needs to be pressed to display system specifications) See <i>below</i> .
DIGIT keys	Used in selecting an item or option by number, or for programming alpha-numeric text and symbols where available.
5 and 9 keys	When programming options that require a Yes/No setting, the <5> (N) key selects No and the <9> (Y) key selects Yes.

Force Arming:

Normally, when a User attempts to turn an Area On from an LCD Terminal and there are one or more Zone Inputs in that Area that are not in the Sealed state, a “Zone Problem ...” message will be displayed on the Terminal. The User is then required to try and rectify the problem or Isolate the Zone Input/s before the Area can be turned On.

When commissioning and/or testing a system it is often useful for the Installer to be able to turn On an Area regardless of Zone Input states in order to enable the Zone Inputs and monitor activity in Review.

A special feature only available to the Installer Code allows the <1> key to be used, when the “Zone Problem ...” message is displayed, to un-conditionally skip the rest of the Zone Test and turn On the Area or Area List regardless of any un-sealed Zone Inputs.

<HELP>, 9 & <HELP>, 0.

Use of the <HELP>, 9 & <HELP>, 0 keys provides the installer with a means of “jumping” between menus which have related programming options.

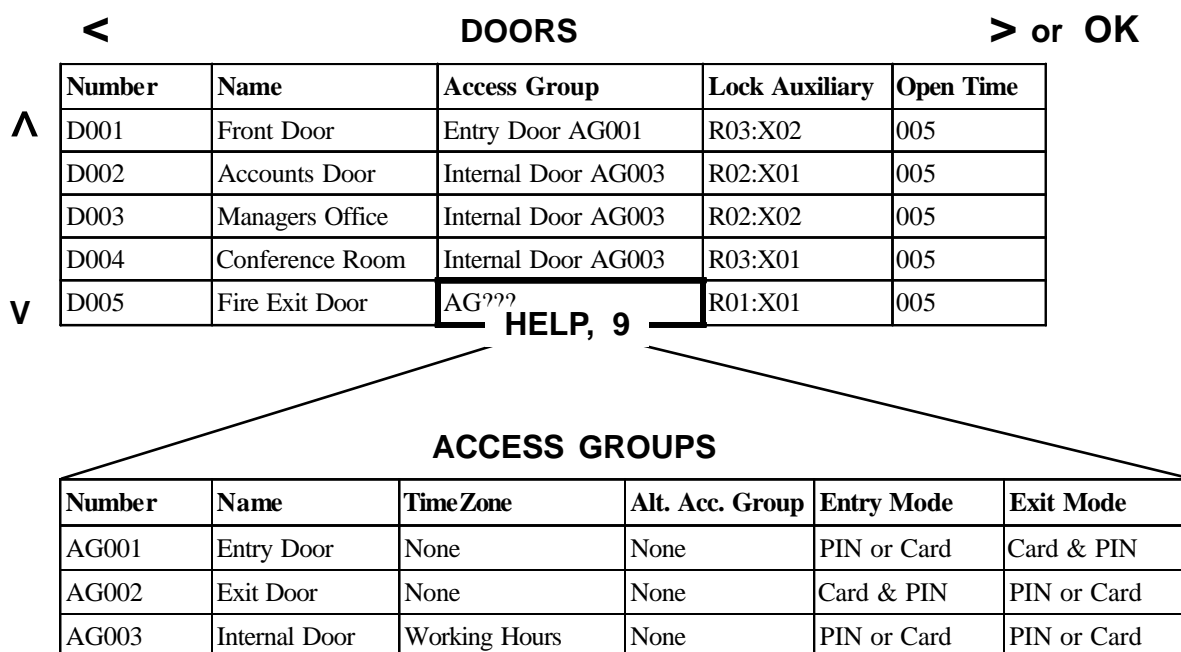
E.g. A new Door is being programmed (Fire Exit Door), and a different mode of access is required to other External Doors. When assigning the Access Group, it is found that there isn't a suitable Access Group available.

With <HELP>, 9 the Installer can jump to Access Group programming, create a new Access Group and then return to Door programming with the <HELP>, 0 keys. Other items which may be accessed for programming when required using <HELP>, 9 include User Types, Lists, Groups, TimeZones, Doors, Telephone numbers, etc.

The illustration below shows how the “Spreadsheet” style database editing can be used.

The LEFT and RIGHT Arrow or OK keys can be used to step through the options of a particular item while the UP and DOWN Arrow keys can be used to scroll through items on a particular option.

HELP, 9 can be used to “Jump” to a related database to create a new item or edit an existing one, then HELP, 0 is used to return to the original database.

**Alpha Searching**

Alpha searching is available on Menus where Names are used. E.g. Any item that includes a name field enabling a text name to be programmed by the installer. Wherever an item to be selected has a name attached, the <ON> key can be used to toggle the screen between the “ID” field and the “Alpha-search” field, enabling items to be selected either by ID number or alphabetically, by name. This greatly simplifies many programming options by allowing items such as Users, User Types, Inputs, Areas, Door Lists, Telephone numbers, etc. to be located with ease.

In alpha-search mode you find an item by pressing the digit key that represents the first letter of the name. (You may have to press the key 2 or 3 times depending on the letter required and the names that have been programmed) If the item that you want is not displayed because of other names beginning with the same letter, you then use the <DOWN> arrow key to locate the item. (When using the Alpha-search option, names are listed in alphabetical order based on the first letter of the name only, and are then listed in order of the ID number. e.g. Users; Jason [U00008] and Jenny [U00005] will be listed in the order; Jenny, then Jason according to the User ID number.)

Some examples of Alpha Searching can be seen under the section “User Programming”, when selecting the “User to Alter” and the “User Type selection”.

e.g. User Type assigned by number

User 00011
Type: UT003

User Type assigned by name.

U00011 Type ->
Office Staff

The LAN System

Introduction

The 3000 / Access 4000 Local Area Network (LAN) is a proprietary RS485 LAN system used to connect modules such as LCD Terminals and Zone Expanders into the system. The LAN is a 3 or 4 wire system; two signal wires labelled “A” and “B”, a negative wire and an optional positive wire to provide power to modules. The following rules apply:

1. The “A” and “B” signal wires must be connected using twisted pair cable to provide the maximum immunity to electrical noise and create the least possible interference.
2. If un-shielded, the LAN cables should not be run near other cables such as mains power cables, intercom or telephone cables.

The LAN will operate at its best if modules are “daisy chained”. This means that the LAN is best configured as 4 wires running the full length of the installation, keeping the length of branches from the main 4 wires to a minimum. However, a “star” configuration, or combination “daisy chain / star” configuration will also operate reliably when installed according to the specification. The power wires do not have to be twisted which allows heavier gauge wires to be used if desired, to minimise voltage drops.

Each module on the system has an optional “Terminating Resistor”. The terminating resistor is normally turned on by a DIP switch, or by inserting a jumper Link, depending on the Module Type. For the LAN to work at its optimum, the two furthest modules apart should have their terminating resistors turned on, and all other modules should have their terminating resistors turned off.

See the “Installation and Troubleshooting” section for LAN installation details.

Configuring the Model 3000 / Access 4000 LAN

Every module is identified with a “Type” and “Number”. The type identifies what kind of module is connected such as an LCD Terminal or a Zone Expander. The number indicates which module is referred to in any one type. For example the first LCD Terminal on the network would be referred to as an LCD Terminal type with a number of 01.

Before a module can be connected to the network it must be given a number so it can be identified in the system for programming etc. Any number between 01 and 99 can be chosen, as long as that number has not already been chosen for that module type. In most memory configurations the maximum number you can choose will be further restricted. The number of a module is set-up on the “number” DIP switch (except for Elite LCD Terminals), see individual module documentation for more details.

The LAN is a self configuring network. This means that once a number has been chosen for a module you simply connect it to the network. Connections can be made without powering down, although with non-electronic fuses, you will need to be careful you don’t short the power wires and blow a fuse. **TIP:** It is best to carry out live LAN connections with the battery disconnected, only running on plug pack to lessen the maximum current available if a momentary short occurs.

All modules on the network are either “addressed” or “un-addressed”. When a module is first connected to the network it is un-addressed meaning it has not been recognised by the system. In a very short period of time, the module will become addressed, meaning it is recognised by the system and operational. Sometimes a module will remain un-addressed for one of the following reasons:

1. The number of this module has already been used for another module of the same type on the network. You need to choose another number.
2. The number of this module is too big for the current memory configuration. You will need to choose a smaller number or use a different memory configuration.
3. This type of module is not recognised by the current system. You will need to upgrade the firmware before this module type can be used.

When modules are found (or lost) by the system a review message is saved and a system LAN fail Input will be restored/alarmed as appropriate. In addition, when a module is powered up and connected to the network a “Module Powered Up” message is saved to review.

Initial Power-Up

When the system is first powered up, it assumes that all possible modules that the memory configuration allows will eventually be connected. In most systems however this is not the case and the system needs to be told that the modules currently connected are the only ones we expect. This is done by “Securing the LAN” which tells the system that the current LAN configuration is all that we expect and therefore all other modules LAN fail Inputs should be sealed. In addition, when the LAN is secured, the system generates a secret encryption key that is transferred to all modules on the network.

See “LAN Secure”, MENU, 7, 8, 1 in the Programming Reference section.

Whenever a module communicates alarm information to the system the encryption keys are compared, and if they don't match a “Module Substitution” message is generated, warning that this module was not present the last time a “Secure LAN” was performed.

(The encryption key is forgotten whenever a module is powered down, thereby preventing a substitute module being installed without the systems knowledge)

LAN Debugging

Detailed LAN Troubleshooting information is provided in the “Installation and Troubleshooting” section.

Some of the factors to be considered in debugging LAN problems are:

1. Check for low battery at all LAN modules, under worse case load. For most modules this means above 12 volts.
2. Check for “stop condition” at all modules. This means check that voltage between A (negative of meter) and B (positive of meter) should be greater than 200mV. If the voltage is negative this indicates an A – B reversal on one of the modules. This will cause VERY SLOW or NO LAN communications. If the voltage is less than 200mv this may indicate that too many termination resistors are inserted, or the wrong value termination resistors are inserted.
3. Check for legal “common mode” condition at all modules. This means check that the voltage between NEG and A is less than +/- 5 volts. Also check between NEG and B.
4. Use LAN statistics screens to check for noise. The statistics need to be cleared, then monitored over a period of time to look for problems. See “LAN statistics”, MENU, 7, 8, 4 in the Programming Reference section.

Timing

The speed and performance of the system is a function of many factors. In general the larger the dimensions of the system, the slower it will be. While a 512k memory expansion offers larger dimensions, it is not intended that all dimensions will be used to their maximum simultaneously as this would result in much slower performance.

Issues that effect system speed are:

1. Amount of LAN activity including noise and collisions. Systems with many Function Zones or continuously triggered enabled zones will result in LAN traffic. Avoid programming schemes with many enabled, constantly triggering zones.
2. Systems with many LCD Terminals logged on simultaneously will slow down a system.
3. Lots of very busy Calculated Auxiliaries can also slow down a system.
4. The most time consuming task is Area on/off. Avoid programming operations that turn many Areas on or off simultaneously if possible. (Area lists for arming should be used sparingly)
5. Avoid having too many Comms Tasks, especially those with high baud rates. The maximum baud rate for a task should be 4800 to 9600 baud. As UART based Comms Tasks are added, lower the Baud rates to compensate. Look for fifo overflow as an indication of speed problems.
See “Baud Rates” under Comms Tasks, MENU, 7, 3, 1 in the Programming Reference section.
6. Accept during download is the same as PC direct download – very expensive time wise.
7. The key technique in programming is to attempt to avoid large amounts of simultaneous activity. By staggering events even slightly, the system can be a lot faster.
8. Version 3 firmware greatly increases the processing speed of zone activity, especially noticeable in 512K chips. This is achieved with a smarter scan algorithm.

Module Polling

In many RS485 LAN systems, the network communications is performed by a “Polling” method in which no module can pass it’s information back to the controller until it is requested. This means that the controller always has control over the network traffic but presents a disadvantage in that all modules must wait in turn to send any data. In instances of very busy periods this can mean that events such as new alarms on remote modules or door access requests can be significantly delayed.

The 3000/Access 4000 LAN protocol overcomes this by allowing any module to check the LAN for busy/free status, and if free, send it’s data to the Control Module without waiting to be polled. This, coupled with clever flow control techniques enable large amounts of traffic to be processed quickly and without error.

To further reduce the amount of traffic and additional processing in the Control Module, the onus is put on each remote module to regularly report it’s presence to the Control Module. This report is done periodically as set by the “POLL TIME” within the programming of each Module in the system.

The “POLL TIME” is programmable from 1-255 seconds. However, practical values are between 30-240 seconds. (Values outside this range would only be used for testing purposes)

e.g. If a 5 second Poll Time was programmed for every module in an installation of 64 modules, LAN traffic would be increased unnecessarily, causing an effect of delays in response or under severe conditions, modules losing communications and then restoring. A value set above 250 will cause a module to always time out, this is because the controller will wait an additional time to allow for excessive LAN traffic which will then exceed a maximum time value of 255.

Poll times (or “time reports” as they might be better described) will have no effect on speeding a system up. As already noted a faster poll time can actually slow a system down. Default Poll time values are provided for all modules in the system. In some circumstances a poll time may need to be altered from the factory setting if a particular module was in a high-risk area and its presence was considered critical.

e.g. In an environment where a keypad was used as a PIN code entry point for DEADMAN operation, a Poll time of 240 seconds (4 minutes) would be unacceptable. The poll time for this particular module could be safely reduced to 30 seconds to give a much faster “LAN Comms” alarm at the Control Module should the terminal fail. As a general rule, the factory set poll times are adequate to maintain a balance between optimum LAN traffic flow and module security.

Factory Default Module Poll Time settings:

Module Type.	Name.	Poll Time.
1	LCD Terminal:	120 seconds.
3	“B” Type Universal Expander:	60 seconds.
4	Reader Module:	60 seconds.
6	Mini Expander Module:	60 seconds.
7	“E” Type Universal Expander:	60 seconds.
8	Intelligent 4 Door Access Module:	60 seconds.
9	Analogue Module:	60 seconds.
11	LAN Power Supply Module:	240 seconds.

System Information

Pressing <MENU>, <2> while logged off (or just <MENU> if V2 or earlier) will provide general information on the system, including PCB Serial number, version and configuration details. In V3 or later, there are two screens of information to view. The <UP> and <DOWN> Arrow keys are used to switch between the two screens.

System Info

SN: 1348 Vers:

System Info

Days: 0079 POpts:

There are a number of differences in the information provided for Type 2 Control Modules and Type 0 or 1 Control Modules. The details for Type 2 are provided below. The details for Type 0/1 are provided on the following page.

Type 2 Control Module PCB:

Information:	Example:	Description:
<u>1st Screen</u>		
Serial Number:	SN: 1348	The Serial Number of the Control Module PCB. Only used in factory procedures. The actual product Serial number is on a printed label on the PCB.
Version:	E04.01	Firmware Version currently fitted. (E = EPROM, F = Optional Flash Memory)
PCB:	2	Controller PCB Type. Type 2: Surface Mount PCB.
RAM:	128K-00-04.01	RAM size - Memory configuration option - Software version used when configured. Memory configuration options: 00 = Standard. 01 = Access. 02 = Enlarged. 03 = Apartments. (V4.5 or later - Formally V2 Standard) 04 = Access 2. (V4.5 or later - Formally V2 Access) 05 = Special. 06 = Alarms. Software Version: 00.00 = configuration performed before this feature was added)
Country:	AU	Defines country specific Version of firmware fitted. AU = Australia UK = United Kingdom
Disty:	xx	Defines Distributor. Not currently used.
Cust:	000	LAN key number programmed. 000 = No LAN key.

2nd Screen

Days:	00048	Number of days unit powered up since manufacture.
POpts:	F7011000	Panel Options enabled via PIC Micro Chip (U14). See details for "Type 2 Control Module Board" in the following chapter titled "3000 and Access 4000 Model Options".
SMode:	1	Security Mode of the firmware.
Vers:	M00.00	Version of the secure Microprocessor fitted. M00.00 = Security Mode is 0.
Gal:	F	Security Level of the Microprocessor.
SecOpt:	\$00	Details (in Hex format) of Security options programmed. <MENU>, 8, 3. 00 No options set. 01 [N]o Code Default option set. 02 [O]wn Code only option set. 04 [L]ockout Installer option set. If multiple options are set, the value displayed will be the sum of the options. e.g. All set = 07, N & O set = 3, etc.

Type 0 (Australia & NZ only) and Type 1 Control Module PCB:

Information:	Example:	Description:
Serial Number:	SN: 1348	The Serial Number of the Control Module PCB. Only used in factory procedures. The actual product Serial number is on a printed label on the PCB.
Version:	E03.01	Firmware Version currently fitted. (E = EPROM, F = Optional Flash Memory)
RAM:	128K-00-03.01	RAM size - Memory configuration option - Software version used when configured. Memory configuration options: 00 = Standard. 01 = Access. 02 = Enlarged. 03 = Vx Standard. (x = V2 if V3 Firmware or later <u>OR</u> V1 if V2 Firmware) 04 = Vx Access. (x = V2 if V3 Firmware or later <u>OR</u> V1 if V2 Firmware) 05 = Special. 06 = Alarms. (V3.5 or later only) Software Version: 00.00 = configuration performed before this feature was added)
Days:	00048	Number of days unit powered up since manufacture.
Modem:	1200 Baud	Speed of the modem chip fitted.
PCB:	1	Controller PCB Type. Type 0: Supports 1Meg EPROMs (Requires 2 x EPROMs for V2 firmware) (Does not support V3 firmware or later) Type 1: Supports 2Meg EPROM (Requires 1 x EPROM for V2 or later firmware)
Lock Option:	00 01/02	00=Australia/New Zealand. (V3 or later only) 01=Export(English language or CZ). 02=Pacom. (V3 or later only) Upgrade firmware (V3 or later) should match existing Lock option.
Options:	\$51	Identification of Options (GAL) chips fitted. ("RAMSIZE" & "FUNCTIONS") 1st Digit = RAMsize. 2=32k (256KBit), 5=128k (1MBit) and 6=512k (4MBit). 2nd Digit = Functions. 0=Std C3000, 1=C4000, 3=Czech C3000, 4=Czech C4000 9=High Level Lift I'face.
Sec:	\$00	Details (in Hex format) of Security options programmed. <MENU>, 8, 3. 00 No options set. 01 [N]o Code Default option set. 02 [O]wn Code only option set. 04 [L]ockout Installer option set. If multiple options are set, the value displayed will be the sum of the options. e.g. All set = 07, N & O set = 3, etc.
PO:		Panel Options. Indicates any Special options that may be enabled on the Control Module. (V3 or later only) L = High Level Lift Interface.
CN:	000	LANKey Customer ID. (V3 or later only)
Lang:	Eng	Language used in Firmware. Eng = English. CZV = Czech. (V3 or later only)
Ver:	M00.00	Secure Micro Version number. M00.00 = Not used. (V3 or later only)

3000 and Access 4000 Model Options

The 3000 and Access 4000 versions of the product are essentially identical except for a small number of enhancements that are available in the Access 4000 only, or as an option.

Tables are provided that give details of the differences between the two models, and the upgrade options available. The tables listed below cover all Types of Control Module Board and Firmware that have been produced, beginning with the latest type.

-Type 2.

-Type 1. Control Module firmware V3 to V4.

-Type 0 or Type 1. Control Module firmware. V2.

NOTE: In Version 1 Control Module firmware there was no "Access 4000" Version of the product and no special options available.

If features unique to the Access 4000, or other special features are required in a system where the Model 3000 has been installed, an upgrade kit is available to convert the Control Module to a Model Access 4000.

Note that in some cases Type 0 Control Module boards may have to be upgraded to Type 1 or Type 2.

See "Memory Defaulting" (MENU, 7, 5, 2) in the *Programming Reference* section for details.

Identifying the Type of Control Module Board.

Due to continual product improvement and enhancements, there have been three different Types of Control Module board produced since the release of the Concept 3000.

The table below can be used to identify the Type of the Control Module board.

The LCD Terminal "System Info" screen is the quickest method of identifying the Type of board.

This screen can be viewed by pressing <MENU>, 2 (OR just the <MENU> key, if V2 or earlier); without logging on to the Terminal.

i.e. No PIN code required.

	LCD Terminal "System Info" screen.	PCB Assembly	ID Printed on PCB	Additional Notes
Type 0	PCB: 0	Through-hole	933001	Australia & NZ only.
Type 1	PCB: 1	Through-hole	934001	
Type 2	PCB: 2	Surface mount	935001	CE approved

Type 2 Control Module Board.

A special Options Micro chip is used to enable certain system options and upgrade options in the Control Module. The Chip is labelled U14 and is located between the Zone 9 to 16 Input connections and Links LK3 to LK6.

The Options Micro chip is fitted with an identification label with the text "CEPIC_x Vn.nn"

Where: x = Options Micro Type as per one of the tables below. i.e. 1 to 9.

n.nn = Options Micro Version number.

A range of standard Options Micro chip types are available.

Special Options Micro chips can be supplied for combinations of features not provided by the standard types.

e.g. If High-level Lift Interface and Programmable Site Code are both required.

These chips can be purchased and changed over by the installer at any time to provide additional features.

The price of each Options Micro Chip Type will vary according to the feature/s that the chip will enable.

NOTE: If the additional feature required is new and was not available in the version of firmware currently in the Control Module, then the Control Module firmware AND the Options Micro will need to be changed.

When purchasing 128k (1MBit) or 512k (4MBit) Memory expansion for the Control Module, an Options Micro chip will also be supplied to enable the use of the additional memory.

The table below shows the current range of Options Micro chips.

This selection table may be expanded as further options become available.

* Factory fitted option for Model 3000. 32k (256kBit) Memory.

^ Factory fitted option for Model Access 4000. 128k (1MBit) Memory.

STANDARD OPTIONS MICRO CHIP TYPES

FEATURE	OPTIONS MICRO TYPE AND DESCRIPTION. (Options Micro V1.14 or later)								
	1*	2^	3	4	5	6	7	8	9
	Standard 3000	Standard 4A000		A4000 HLI512	A4000 INOV	A4000 INOV	3000 Prog SC	A4000 Prog SC	A4000 Prog SC
	32k (256kBit)	128k (1MBit)	512k (4MBit)	512k (4MBit)	128k (1MBit)	512k (4MBit)	32k (256kBit)	128k (1MBit)	512k (4MBit)
0 Aircon. Control		YES	YES	YES	YES	YES		YES	YES
1 Door Interlocking		YES	YES	YES	YES	YES		YES	YES
2 ACCEPT	YES	YES	YES	YES	YES	YES	YES	YES	YES
3 High Level Lift I/F				YES					
4 "Card only" Users		YES	YES	YES	YES	YES		YES	YES
5 GSM SMS	YES	YES	YES	YES	YES	YES	YES	YES	YES
6 Spare	YES	YES	YES	YES	YES	YES	YES	YES	YES
7 Lift Access Control		YES	YES	YES	YES	YES		YES	YES
8 128k (1MBit) RAM		YES			YES			YES	
9 512k (4MBit) RAM			YES	YES		YES			YES
10 Spare									
11 Spare									
12 to 15 Spare									
16 GEOQUIP									
17 Inov. 96 Zones*					YES				
18 Inov. 208 Zones*						YES			
19 Prog. Site Code*							YES	YES	YES
20 GSM FE3000*	YES	YES	YES	YES	YES	YES	YES	YES	YES

* Control Module firmware V4.5 or later only.

EARLIER VERSION OPTIONS MICRO CHIP TYPES

The table below shows the range of Options Micro chips available up to Options Micro V1.09.

IMPORTANT NOTE: This table is for reference only.

Options Micro chips of V1.09 or earlier can no longer be purchased.

* Factory fitted option for Model 3000. 32k (256kBit) Memory.

^ Factory fitted option for Model Access 4000. 128k (1MBit) Memory.

(Up to V4 Control Module Firmware)

FEATURE	OPTIONS MICRO TYPE AND DESCRIPTION. (Options Micro up to V1.09)							
	1*	2	3	4^	5	6	7	
	Standard 3000			Standard 4000		A4000 HLI512	A4000 GEO128	
	32k (256kBit)	128k (1MBit)	512k (4MBit)	128k (1MBit)	512k (4MBit)	512k (4MBit)	128k (1MBit)	
0 Aircon. Control				YES	YES	YES	YES	
1 Door Interlocking				YES	YES	YES	YES	
2 ACCEPT	YES	YES	YES	YES	YES	YES	YES	
3 High Level Lift I/F						YES		
4 "Card only" Users				YES	YES	YES	YES	
5 GSM SMS	YES	YES	YES	YES	YES	YES	YES	
6 Spare	YES	YES	YES	YES	YES	YES	YES	
7 Lift Access Control				YES	YES	YES	YES	
8 128k (1MBit) RAM		YES		YES			YES	
9 512k (4MBit) RAM			YES		YES	YES		
10 Spare								
11 Spare								
12 Spare								
13 Spare								
14 Spare								
15 Spare								
16 GEOQUIP							YES	

Identifying the PIC Micro Chip options enabled:

If the PIC Micro Chip cannot be physically identified, the System Information Screen as described in the previous chapter can be used to determine which options have been enabled via the PIC Micro Chip.

The second System Information screen provides the “Panel Options” field:

“POpts: xxxxxxxx”

Where “xxxxxxx” is a Hexadecimal character string that represents the options that are enabled.

Each Hex character represents 4 bits of the options Bitmap.

Each bit represents an option where 1 = Enabled and 0 = Disabled.

The options represented by each character are as follows:

Character	1st Bit	2nd Bit	3rd Bit	4th Bit
1	07 Lift control	06 Spare	05 GSM SMS	04 Card Only Users
2	03 High Level Lift	02 ACCEPT	01 Door Interlocking	00 Airconditioning
3	15	14	13	12
4	11	10	09 512k (4MBit) Mem.	08 128k (1MBit) Mem.
5	23	22	21	20 GSM FE3000*
6	19 Prog. Site Code.*	18 Inovonics 208 Zones*	17 Inovonics 96 Zones*	16 Geoquip (Under Dev)
7	Spare	Spare	Spare	Spare
8	Spare	Spare	Spare	Spare

* Control Module Firmware V4.5 or later only.

Step 1:

Convert the Hex character string to binary digits.

e.g.

POpts: 64040800 is converted as follows:

6 4 0 0 1 8 0 0
0110 0100 0000 0000 0001 1000 0000 0000

Step 2:

Using the table above, it can then be determined that the following options are enabled:

GSM SMS, ACCEPT software, GSM FE3000 and Programmable Site Code.

Step 3:

Using the “Options Micro Type” table below, it can then be determined that Options Micro Chip Type 7 is fitted.

This means that the Control Module is configured as a Model 3000 (32k) with the options listed above enabled.

CURRENT PIC MICRO CHIP OPTIONS TYPES.

PIC Micro Chip Type	POpts Character string and Description.			
	V1.13 (Current)		V1.09 (Earlier Version)	
1	64001000	3000 32k	64000000	3000 32k
2	F7011000	A4000 128k	64010000	3000 128k
3	F7021000	A4000 512k	64020000	3000 512k
4	FF021000	A4000 512k HLI	F7010000	A4000 128k
5	F7011200	A4000 128k Inovonics 96 Zones	F7020000	A4000 512k
6	F7021400	A4000 512k Inovonics 208 Zones	FF020000	A4000 512k HLI
7	64001800	3000 32k Programmable Site Code	F7010100	A4000 128k GEO
8	F7011800	A4000 128k Programmable Site Code		
9	F7021800	A4000 512k Programmable Site Code		

Type 1 Control Module Board. Version 3 to Version 4

The table below provides details of the differences between the two models in Version 3 firmware or later, and the upgrade options available.

V3 FEATURE	Standard 3000	3000 Option	Standard Access 4000	Access 4000 Option
Lift Control	No	No	Yes	
High Level Lift I'face	No	No	No	Yes (Special Firmware)
Door Interlocking	No	No	Yes	
Card Only Users	No	No	Yes	
AirConditioning	No	No	Yes	
Spare				
32k (256kBit) Memory	Yes			
128k (1MBit) Memory	No	Yes	Yes	
512k (4MBit) Memory	No	Yes	No	Yes
Accept S'ware I'face	No	Yes	No	Yes

Type 0 or Type 1 Control Module Board. Version 2

The differences between the 3000 and Access 4000 Versions of the product in Version 2 firmware are detailed in the table below for reference purposes.

V2 FEATURE	Standard 3000	3000 Option	Standard Access 4000	Access 4000 Option
Lift Control	Yes		Yes	
Door Interlocking	No	No	Yes	
Card Only Users	No	No	Yes	
AirConditioning	No	No	Yes	
Zone control of Home Auxiliaries	No	No	Yes	
32k (256kBit) Memory	Yes			
128k (1MBit) Memory	No	Yes	Yes	
512k (4MBit) Memory	No	Yes	No	Yes
Accept S'ware I'face	No	No	Yes	

Model 3000 / Access 4000

Programming Summary

The following is a list of Model 3000 and Access 4000 V4 programming options.

Options only available in V2.0 or later; *are shown in Italic type.*

Options only available in V3.0 or later; **are shown in Bold type.**

Options only available in V3.5 or later; **are shown in Arial font.**

Options only available in V4 or later; **ARE SHOWN IN SMALL CAPITALS.**

Options only available in V4.5 or later; **are shown in Arial Bold type.**

* Asterisk indicates that actual numbers of items will depend on Memory size fitted and configuration option selected.

Users [MENU, 2, 1]

- User Number (0 to 65500)*
- User Name (0 to 16 characters - Not available for "Card Only" Users)
- User Type (0 to 250 types)*
- PIN Code^ (0 to 8 digits)
- Card Type (Credit Card / Site Code / Direct Entry)
- Account Number/Card & Issue Number/Raw Card Data (depending on Card type)
- User Expiry Date / Time.^
- User Rank^ (May be used to determine permission to change other Users)
- User Options^ (No Message Ack. / Duress Code / Area List default / *Extra Area Off* / **No Greeting**)
- User Extra Area.^
- **User Extra Door. (Only available in selected 512k or Custom configurations)**
- **User Extra Door List. (Only available in selected 512k or Custom configurations)**

^ Not available for "Card Only" Users

User Types [MENU, 2, 2]

- User Type Number (0 to 250)*
- User Type Name (0 to 16 characters)
- User Type TimeZone (0 to 250)*
- Alternative User Type. (0 to 250)*
- Area ON List (0 to 250)*
- Area OFF List (0 to 250)*
- Menu Group (0 to 250)*
- Door List (0 to 250)*
- Lift Car List (0 to 250)*
- Floor List (0 to 250)*
- User Type Options (**Disabled User** / Dual Code Provider / Dual User Override / AntiPassback Override / Cancel on PIN / Cancel on Card)
- User Type Rank. (May be used to determine which User Types a User may assign to other Users)
- Valid code Auxiliary (An Auxiliary which will activate upon entry of a valid User code)
- Home Auxiliary types allowed (1 to 8)

Menu Groups[MENU, 2, 4, 1]

- Menu Group Number (0 to 250)*
- Menu Group Name (0 to 16 characters)
- Menu Group TimeZone (0 to 250)*
- Menu Group Alternative Group. (0 to 250)*
- Menu Group functional options allowed (Remote Access / Isolate on Exit / *Defer Area On / Cancel Holdup / Sirens Off / Acknowledge messages / Multiple Area control / Tamper on/off*)
- Menu Options allowed. (Read Info / Access / Isolate / Test / Times / SPARE / Service / Control)
- Sub-menu Opts allowed. (User Codes / User Types / Lists / Groups / TimeZones / **Review / Adjust Counters**)
- **Other Options allowed. (Reset latched alarms / Home Zone Isolate / ONLY OWN LIST)**

Access Group[MENU, 2, 4, 2]

- Access Group Number (0 to 250)*
- Access Group Name (0 to 16 characters)
- Access Group TimeZone (0 to 250)*
- Alternative Access Group. (0 to 250)*
- Entry/Exit Modes. (PIN only / Card only / PIN or Card / Card & PIN)
- Entry/Exit Anti-Passback modes. (None / Soft / Hard)
- Entry/Exit Options. (Button facility / DeadLock function / Auto Area Off / Dual User)
- Access Group Options. (Isolate on Entry / De-isolate on Exit / No Entry if wrong area / No Exit if wrong area / *Two Zones mode*)

Process Group[MENU, 2, 4, 3]

- Process Group Number (0 to 250)*
- Process Group Name (0 to 16 characters)
- Process Group TimeZone (0 to 250)*
- Alternative Process Group. (0 to 250)*
- Tamper/Alarm processing options. (Recognize Tamper / Recognize Alarms / **Latch Input**)
- Delayed/Primary processing options. (Entry Zone / Exit Zone / Primary entry zone)
- Pulse count processing options. (Pulse count / *Single Pulse*)
- Communications Reporting Options. (Isolates / Tamper / Alarms / Restores / Alarms during entry / Alarms during exit / *Unseal Restores / Single report*)
- Contact ID message.
- **4+2 Pulse message.**
- Area Auxiliary Options. (Tamper / Alm 1 / Alm 2 / Alm 3 / Alm 4 / Isolate)
- Alarm Siren tone selection. (None, Bell, Sweep, Fire or Evacuation)
- Tamper Siren tone selection. (None, Bell, Sweep, Fire or Evacuation)
- Siren Lockout.
- *Siren Re-trigger.*
- LCD Terminal Message types. (1 to 8)
- *Home Auxiliary on Seal options. (None / Turn on / Turn off / Toggle)*
- *Home Auxiliary on Alarm options. (None / Turn on / Turn off / Toggle)*
- *Home Auxiliary on Tamper options. (None / Turn on / Turn off / Toggle)*
- *Home Auxiliary options. (Override time / Minute timer)*
- *Home Auxiliary Time.*
- **Extra Options. (Refresh Only / No refresh / Lift buttons)**
- **Pin Type. (1-Fire / 2-PA / 3-Intruder / 5-Medical / 6-System / 8-Plant)**
- **Verify Group. (1 to 16)**
- **Transmit SMS options. (No SMS / One #, No Ack / One # with Ack / List with Ack / List, No Ack)**
- **SMS Telephone Number.**

Area List [MENU, 2, 3, 1]

- Area List Number. (0 to 250)*
- Area List Name (0 to 16 characters)
- Area List TimeZone (0 to 250)*
- Alternative Area List. (0 to 250)*
- Areas assigned to this List

Door List [MENU, 2, 3, 2]

- Door List Number. (0 to 250)*
- Door List Name (0 to 16 characters)
- Door List TimeZone (0 to 250)*
- Alternative Door List. (0 to 250)*
- Doors assigned to this List

Siren List [MENU, 2, 3, 3]

- Siren List Number. (0 to 250)*
- Sirens assigned to this list (up to 16)

Floor List [MENU, 2, 3, 4]

- Floor List Number. (0 to 250)*
- Floor List TimeZone (0 to 250)*
- Alternative Floor List. (0 to 250)*
- Floors assigned to this List

Lift Car List [MENU, 2, 3, 5]

- Lift Car List Number. (0 to 250)*
- Lift Car List TimeZone (0 to 250)*
- Alternative Lift Car List. (0 to 250)*
- Lift Cars assigned to this List.

Auxiliary List [MENU, 2, 3, 6]

- *Auxiliary List Number. (0 to 64)**
- *Auxiliary List Name (0 to 16 characters)*
- *Auxiliaries assigned to this List (Up to 8)*

Site Codes [MENU, 2, 5]

- Site Code Number. (1 to 128)*
- Site Code
- Card Number Offset
- Site Code Enabled / Disabled. (“Present”)

Backup Cards [MENU, 2, 6]

- Backup Card Number. (1 to 127)* Only 15 Backup Cards available prior to V3.56.
(127 BACKUP CARDS ONLY AVAILABLE V3.56 OR LATER. - REQUIRES ENHANCED VERSION OF 1 OR 2 DOOR ACCESS MODULE)
- “Waiting for Backup Card ??? at Rxx” (Where Rxx = Reader Module number)

Isolate [MENU, 3]

- Select Input. (Zone or System Input).
- Select Action. Isolate / “Sticky” Isolate / De-Isolate.

Testing [MENU, 4]

- Inputs [1]
- Input to Test.
- Auxiliaries [2]
- Auxiliary to Operate.
- Sirens [3]
- Siren to Operate. (On / Off / 1-Bell / 2-Sweep / 3-Fire / 4-Evacuation / 8-Internal Only / 9-External only)
- Telecom [4]
- Loop / Unloop.
- Seize / Unseize.
- DTMF / Decadic.
- Impedance Switch On / Off.
- Dial digits.
- Cards [5]
- Memory [6]
- Ports [7]
- Input Status.
- Output Status. (1-Toggle DTR / 2-Toggle RTS)
- Power [8]
- Check System Inputs.
- Diagnostic Controls. (Off & On-Turn Off & On all Expander Battery Chargers / 7 & 9-Turn Off & On Controller Battery Charger / 1 & 3-Unlock & Re-lock all Door Lock Auxiliaries / < or >-Re-test LAN Comms / ^ & v-Check for other unsealed Inputs)
- VOLTS [9]
- CHECK CONTROL MODULE POWER CONDITIONS.
- DIAGNOSTIC CONTROLS. (ON-TURN OFF BATTERY CHARGER / ANY OTHER KEY-TURN ON BATTERY CHARGER)

Time and Date [MENU, 5, 1]

- Set Time and Date.
- Set Weekday.

TimeZones [MENU, 5, 2]

- TimeZone Number (0 to 250)*
- **Current Status. (V)alid / (I)nvaid.**
- TimeZone Name.
- Start time / Stop time / Days of week (up to 4 periods).
- Holiday types to obey. (1 to 6)
- Function options. (Aux on/off / Area on/off / Area List on/off / *Door lock/unlock / Door List lock/unlock / Lift Car & Floor secure/unsecure / Lift Car & Floor List secure/unsecure / Trigger Time Report / Aux on/off sec / Aux on/off min. / Lift Car List & Floor List secure/unsecure / Lift Car List & Floor secure/unsecure / Area Defer On /*)
- Control options. (On when Tz goes Valid / Off when Tz goes Valid / On when Tz goes Invalid / Off when Tz goes Invalid.
- Entity/List to turn on/off. (Depends on Function option selected above)
- Auxiliary qualify options. (Qualify / Invert Qualify)
- Auxiliary to qualify against.

Holidays [MENU, 5, 3]

- Holiday Number (0 to 250)*
- Holiday Name
- Start date / Stop date
- Holiday type (1 to 6)

Diaries [MENU, 5, 4]

- Diary Number (0 to 32)*
- Diary Date and Time
- Valid Days of the week
- Diary Message. 16 characters X 2 (lines)
- Valid (Output) Auxiliary. (On whenever Diary is Valid)
- QUALIFY AUXILIARY. (IF ASSIGNED, MUST BE ON FOR DIARY TO BE VALID)
- Diary Function. (*Time Adjust Add 1 hr. / Time Adjust Subtract 1 hr. / Skip Subtract 1 hr. / Battery Test*)

Auxiliary Timers [MENU, 5, 5]

- Auxiliary to Time on.
- Auxiliary ON time (1 to 255 seconds / minutes).
- Save to Review Option.
- *Auxiliary Off on reset.*

Spare [MENU, 6]

- For future enhancement.

Inputs (Zones)[MENU, 7, 0]

- Input (Zone) Number.
- Input (Zone) Name. (Up to 24 characters)
- Input options. (**Summary Zone** / Ignore Physical Zone Input -Calculated Zone / Save to review when C01:X01 is On / Swap Seal & Alarm / Don't save to Review / Allow Auto Isolate / No test on Exit / Zone Self Test)
- *Home Auxiliary to control.*

Areas[MENU, 7, 1]

- Area Number. (0 to 250)*
- Area Name.
- Internal / External Siren Mode. (No Siren / Instant / 2nd Hit / **Backup**)
- Siren List to sound.
- Siren Time. (minutes)
- Exit Delay time. (seconds)
- Entry Delay time. (seconds)
- Pulse time. (seconds)
- Pulse count for this Area.
- Communications Reporting options. (Openings / Closings / Open after alarm / Not General Area / 24 Hour [Tamper] Off reports / Area Still Open reports)
- Area client code.
- Area Options. (Test for Users on arming / *Holdup Area* / *Defer Area On* / **No Siren cancel** / **Pulse Timer** / WARN AUXILIARY=ALM4 AUX / FUNCTION ZONE AREA)
- Self Test "ON" count. (Frequency of Zone self-test.)
- Auxiliaries to activate (Exit^ / Entry^ / Siren* / Close* / 24Hr (Tamper) / Alarm 1-4* / Isolate / **Count** / **Test**)
***Aux List option available V3 or later.** ^AUX LIST OPTION AVAILABLE V4 OR LATER.
- Sub-Area to use.
- *Area User Count.*
- *Area Count control options. (On or Off when count met / On or Off when count+1 met)*
- *Trigger Count.*
- **Test Options.** (Force Test of all "Self Test" Zones / Qualify for exit / Trigger Test Auxiliary / Arm Area for Test / Walk test on Arming / Exit to View Counters)
- **Max Test Count.** (Max time allowed for testing)
- **Area Defer Time.**
- Zones/Process Groups in this Area.

LCD Terminal[MENU, 7, 2, 1]

- LCD Terminal Number (1 to 99)*
- Poll Time (1 to 255 seconds)
- LAN Priority (0 to 3)
- Area Alarm Message Types allowed. (1 to 8)
- Default Display message options. (Single Area / Multiple Area / Diary messages / Level messages / Single Area Alarms / All Area Alarms / Custom Diary message)
- *LED (Lamp) mode. (None / Area Array)*
- Associated Area.
- Keypad dual code/lockout time.
- Associated Door.
- Door access options. (Located Inside or Outside / OK key for REX or REN / Access Control Only / Zone 2 REX on Inside / Single Area operations)
- *Extra Options. (Limit Messages / No key beep / Zone 2 REX button enable)*
- **Logged Off Options.** (Area Status Array / Area status Text / View Latch Alarms / Alarm Review / Home Auxiliary Control / Air-Conditioning Control)
- Menu Group
- **Area List Filter.**
- ENHANCED KEYPAD LOCKOUT.
- MAXIMUM PIN CODE ATTEMPTS. (0 TO 15)

LED Terminal (Not yet available) [MENU, 7, 2, 2]

- LED Terminal Number (1 to 99)*
- Poll Time (1 to 255 seconds)
- LAN Priority (0 to 3)

32 Zone (Big) Expander Modules [MENU, 7, 2, 3]

- Expander Number (1 to 99)*
- Poll Time (1 to 255 seconds)
- LAN Priority (0 to 3)
- **Battery Test Time. (minutes)**
- **Zone Debounce time. Set by DIPswitch on Universal Expander only. (40mS / 400mS - Setting applies to all zones on the Expander.**

Single Door / 2 Door Access Modules [MENU, 7, 2, 4]

- Access Module Number (1 to 99)*
- Poll Time (1 to 255 seconds)
- LAN Priority (0 to 3)
- Purpose (Door / Lift control)
- Associated Door/s / Lift.
- Access Module Options.
 - Comms (LAN) fail opts. (Backup Cards operate / REN operation / REX operation / First 2 Backup Cards only)
 - Other options. (**DOTL warning** / No Valid/Invalid LED control / Tongue sense / 2 Door mode)
- Reader Arming mode. (None / *Extra Area if PB* / *Exit Area if Count=0* / *Exit Area if PB* / *Entry Area if PB* / *Exit Area if 3 swipes* / *Entry Area if 3 swipes*).
 "PB" = Pushbutton used in conjunction with Card (Connected via "Arm" Button Input on Module)
- *Turn Off Extra Area option.*
- Reader 1 / Reader 2 location (Inside / Outside)
- Reader 1 / Reader 2 format. (None / Swipe / Swipe Last / Insertion / Nbit Wiegand / *Nbit Fast* / 26 / 27 / 30 / 32 / 34 / 36 / 37 / 40 bit Wiegand / *ProxPIN*)
- Reader 1 / Reader 2 mode. (Credit Card / Direct Entry / Site Code / *Any Card*)
- *Reader 1 / Reader 2 keypad for PIN code options. (LCD Terminal / Motorola ARK-501 / HID 5355 / **MR Access**)*
- Reader 1 / Reader 2 associated module for PIN codes. (If LCD Terminal selected above)

Wireless Zone Registration [MENU, 7, 2, 5]

- **Register / Unregister Wireless Zone Transmitters. (Nxx:Zxx - Inovonics MF Series only)**

Mini Expander Modules [MENU, 7, 2, 6]

- *Expander Number (1 to 99)**
- *Poll Time (1 to 255 seconds)*
- *LAN Priority (0 to 3)*
- **Zone Type (per Zone) (Normal Zone / Counter / Holdup / Suspicion / Holdup+Suspicion)**
- **Zone De-bounce (per Zone in milliSeconds)**
 (5 / 10 / 20 / 30 / 40 / 50 / 75 / 100 / 200 / 300 / 400 / 500 / 600 / 750 / 1000 / 1250)

16 Zone Expander Modules[MENU, 7, 2, 7]

- Expander Number (1 to 99)*
- Poll Time (1 to 255 seconds)
- LAN Priority (0 to 3)
- **Battery Test Time. (minutes)**
- **Zone Debounce time. Set by DIPswitch on Universal Expander only. (40mS / 400mS - Setting applies to all zones on the Expander.**

Intelligent 4 Door Access Modules[MENU, 7, 2, 8]

- Intelligent 4 Door Access Module Number (1 to 99)*
- Poll Time (1 to 255 seconds)
- LAN Priority (0 to 3)
- Battery Test Time. (1 to 255 minutes)
- Review Pacing. (00 to FF)
- Intelligent Reader Module Options. (Detailed Review / Tongue sense)
- Associated Door/s. (Up to 4)
- Reader 1 to 8 format. (None / Swipe / Swipe Last / Insertion / Nbit Wiegand / Nbit Fast / 26 / 27 / 30 / 32 / 34 / 36 / 37 / 40 bit Wiegand / ProxPIN)
- Reader 1 to 8 mode. (Credit Card / Direct Entry / Site Code / Any Card)
- Reader 1 to 8 Arming mode. (None / Extra Area if PB / Exit Area if Count=0 / Exit Area if PB / Entry Area if PB / Exit Area if 3 swipes / Entry Area if 3 swipes)
"PB" = Pushbutton used in conjunction with Card (Connected via "Arm" Button Input on Module)
- Reader 1 to 8 Turn Off Extra Area option.
- Reader 1 to 8 location (Inside / Outside - Door 1 / 2 / 3 / 4)
- Reader 1 to 8 associated module for PIN codes. (If LCD Terminal selected below)
- Reader 1 to 8 keypad for PIN code options. (LCD Terminal / Motorola ARK-501 / HID 5355 / **MR Access**)
- PROCESS LOCK OPEN TIMES IN 100MILLISECOND INCREMENTS.
(THIS OPTION SET VIA SW8 ON DIPSWITCH 2 - NOT VIA PROGRAMMING)

Offline options:

- "Inside Area" state assumed for Door 1 / 2 / 3 / 4. (Off / On / Deny)
- "Outside Area" state assumed for Door 1 / 2 / 3 / 4. (Off / On)
- "Interlock" state assumed for Door 1 / 2 / 3 / 4. (Closed / Open)

Analogue Modules[MENU, 7, 2, 9]

- **Analogue Module Number (1 to 99)***
- **Poll Time (1 to 255 seconds)**
- **LAN Priority (0 to 3)**
- **Auto Update Time (minutes)**
- **Options (Log Zone 1 / 2 / 3 / 4)**
- **Trigger 1 value (per Zone)**
- **Trigger 2 value (per Zone - Mode 4 only)**
- **Calibration String (per Zone - Includes Mode selection from Mode 0, 1, 2, 3, 4 OR 5)**

LAN Power Supply Modules**[MENU, 7, 2, 0, 1]**

- **LAN PS Module Number (1 to 99)***
- **Poll Time (1 to 255 seconds)**
- **LAN Priority (0 to 3)**
- **Battery Test Time. (minutes)**
- **Options (Invert Auxiliary 1 / Invert Auxiliary 2)**
- **Number of Slaves (1 to 3)**
- **Auxiliary 2 Tamper Current**
- **Battery Charger Maximum Current**
- **Detector Output Maximum Current**

Communication Tasks**[MENU, 7, 3, 1]**

- **Comms Task Number (0 to 10)***
- **Communication type. (Monitor [Factory Only] / Answer Call (**with DTMF control opts**) / PCDirect / IRfast / Contact ID / **EMS (Elevator Mgt System)** / EarthNet / Securitel / Printer / External Modem / Inet (formerly Multi-Drop) / **Accept** (formerly CommPass) / **Poll Data** / **Pacom** / *IRfast Backup* / *CID Backup* / GSM / *SpreadNet* / **4+2 Pulse** / **8 Pin** / C-BUS / INOVONICS / **PosData DVR** / **Dynalite**).**
- **Idle/Active status.**
- **Individual Format Programming**
(See separate listing following this summary)

Telephone Numbers**[MENU, 7, 3, 2]**

- **Telephone Number to program (0 to 64)***
- **Telephone Number name**
- **Telephone Number TimeZone (0 to 250)***
- **Alternative Telephone Number.**
- **Telephone Number.**
Alpha-numeric editing (* / # / Pause)

DTMF Control**[MENU, 7, 3, 3]**

- **DTMF Control to program (0 to 16)***
- **Control Code (4 digit code)**
- **Function. (Area On / Area Off / Aux On (seconds) / Aux On (minutes) / Aux Off)**
- **Auxiliary to Control.**
- **Area to Operate.**
- **Auxiliary Time.**

General Options[MENU, 7, 5, 1]

- Power fail delay time (0 to 255 minutes)
- Site Code Type (Standard / **General**)
- *Clock Adjustment options.* (60 Hz MAINS [TYPE 2 CONTROLLER ONLY] / *Disable mains sync.* / *Clock is Fast*)
- *Clock Error factor.*
- *Panel Options1.* (*No Aux Off on Reset* / *Detailed Review* / **Fast Zone processing** / **Force all events to Review** / **No ON key Lockout [UK only]** (Formerly **Fast Zone De-bounce on Control Module-50mS**) / **+1 Duress Codes** / **Ignore AC fail inputs**)
- *Panel Options2.* (*Disable User Extra Area programming* / *Use Start Bit in Wiegand data* / **Disable User Extra Door/DList programming**)
- *Reader to be used for User Card programming.* (*If using Direct entry mode*)
- *Area "Deferred On" time.*
- **Control Module Battery Test Time.** (minutes)
- **General Site Code Format. Total Bits** (1 to 40)
- **General Site Code Format. Site Code Number of Bits** (1 to 19)
- **General Site Code Format. Site Code Offset**
- **General Site Code Format. User ID Number of Bits** (1 to 16)
- **General Site Code Format. User ID Offset**
- **Holdoff Siren Time.** (1 to 255 minutes)

Memory[MENU, 7, 5, 2]

- Memory default to use (Don't Default / Standard / Access / *Enlarged* / **Apartments [Formerly V2 Standard]** / **Access 2 [Formerly V2 Access]** / Special / Alarm / **XDoor**)
See "Default Memory Configurations" table for details.
- Confirm Default. CAUTION - Erases all programming.

Function Zones[MENU, 7, 5, 3]

- Function Zone Number (0 to 128)*
- Function Zone Input definition (e.g. C01:Z09)
- Auxiliary control options. (On / Off when Seals / On / Off when Unseals)
- Auxiliary to turn on/off
- Area control options. (On / Off when Seals / On / Off when Unseals)
- Use Area List. (Y / n)
- Area (or Area List) to turn on/off

Calculated Auxiliaries[MENU, 7, 5, 4]

- Calculated Auxiliary Number (0 to 128)*
- Required Action or Function
 - Boolean Logic options. (Equal to 1st / Opp to 1st / On if 1st On / Off if 1st Off / On if 1st Off / Off is 1st On / 1st OR 2nd / 1st AND 2nd / 1st Opp 2nd (XOR) / *ON/OFF with 1st*)
 - Control options. (Area Control / Anti-passback Amnesty / Door; Lock & Unlock options / Lift; Free Access & Secure options / *Clear Area Counter options* / *Ripple Counter* / **Clear Event Counter options** / **Reset Alarms [On key lockout function]**)
- Option to Trigger a Zone Input. (Instead of a Result Auxiliary)
- Result Auxiliary to control OR Zone to Trigger (If a Logic option selected)
- Area Control options. (If Area Control selected)
- Area (or Area List) to control (If Area Control selected)
- Door List to control (If Lock or Unlock options selected)
- Lift Car to control (If Lift Free Access or Secure options selected)
- Floor List to control (If Lift Free Access or Secure options selected)
- *Area Count to clear count.* (*If Clear Area count options selected*)
- **Counter to clear.** (**If Clear Event Counter options selected**)
- 1st Auxiliary Input.
- 2nd Auxiliary Input.
- *Result Auxiliary options.* (*Override time* / *Minute timer*)
- *Result Auxiliary time.*

Home Auxiliaries [MENU, 7, 5, 5]

- Home Auxiliary Number (0 to 128)*
- Home Auxiliary name
- Auxiliary (or Auxiliary List) to control (E.g. C01:X08 or XL003)
- Auxiliary List control options. (OFOF)
- Home Auxiliary Type (up to 8)
- Home Auxiliary Options (Toggle from Keypad / **SMS Control**)

Air Conditioning [MENU, 7, 5, 6] ACCESS 4000 ONLY

- AirCon Number (0 to 4)*
- AirCon Mode (Disabled / Industrial / Domestic)
- Compressor minimum on time
- Compressor minimum off time
- Number of Zones (1 to 8)
- Return Air Zone
- Zones for Bypass
- AirCon Options (Domestic Heat & Cool / Terminal Operation / Force Return Air Zone / No Review)
- Zone Dampers 1st Auxiliary
- Control 1st Auxiliary
- Thermostats 1st Zone Input
- Control Inputs 1st Zone Input
- TimeZone
- Areas assigned to AirCon Zones
- Enable Auxiliaries
- Disable Auxiliaries

Home Zones [MENU, 7, 5, 7]

- **Home Zone Number (0 to 64)***
- **Home Zone options (Allow Isolate)**
- **Input assigned.**
- **Home Zone name. (16 characters)**

Counters [MENU, 7, 5, 8]

- **Counter Number (0 to 32)***
- **Counter name. (16 characters)**
- **Input used. (Mini Expanders only - Mxx:Zxx)**
- **Counter Type (Dual Trigger point)**
- **Trigger Count 1.**
- **Trigger Count 2.**
- **Counter Options (4 digit display / Allow to Display)**

C-BUS**[MENU, 7, 5, 9, 1]** (V4, MENU, 7, 5, 9)

- C-BUS PROGRAM NUMBER (0 to 128)*
- C-BUS OPTIONS (2ND APPLICATION / AUXILIARY FEEDBACK / RESEND)
- AUXILIARY
- ON COMMAND (NONE / ON / OFF / 0s / 4s / 8s / 12s / 20s / 30s / 40s / 1M / 1.5M / 2M / 3M / 5M / 7M / 10M / 15M / 17M)
- ON GROUP ADDRESS
- ON RAMP LEVEL
- OFF COMMAND (NONE / ON / OFF / 0s / 4s / 8s / 12s / 20s / 30s / 40s / 1M / 1.5M / 2M / 3M / 5M / 7M / 10M / 15M / 17M)
- OFF GROUP ADDRESS
- OFF RAMP LEVEL
- RAMP THRESHOLD

Dynalite**[MENU, 7, 5, 9, 2]**

- **Dynalite Program Number (0 to 128)***
- **Dynalite Options (Resend)**
- **Auxiliary**
- **On Area Address**
- **On Preset**
- **On Fade Rate**
- **Off Area Address**
- **Off Preset**
- **Off Fade Rate**

Doors**[MENU, 7, 6]**

- Door Number (0 to 250)*
- Door Name (0 to 16 characters)
- Inside/Outside Areas.
- Access Group (0 to 250)*
- Lock Auxiliary to activate
- Lock Open time.
- Maximum Door Open time.
- *Door Options. (Extra Area Counting)*
- *Door Interlock Group. ACCESS 4000 ONLY*

Interlock Group*[via MENU, 7, 6] ACCESS 4000 ONLY*

- *Interlock Group Number (0 to 250)**
- *Interlock Group TimeZone (0 to 250)**
- *Alternative Interlock Group. (0 to 250)**
- *Interlock Group Options. (Qualify with Zone Input / Use Tongue Sense)*
- *Door List to Interlock*
- *Area List to Qualify against*
- *Qualify Auxiliary*
- *Qualify Zone*

LAN [MENU, 7, 8]

- Secure LAN. [1]
- Initialise LAN. [2]
- List LAN (Option not yet available) [3]
- **Statistics** . [4]
 - Reset statistics.
 - View statistics.
- **Reset Control Module.** [9]

Lifts [MENU, 7, 9]

- Lift Car Number (0 to 512)*
- Access Group (0 to 250)*
- Floor List (0 to 250)*
- Number of Floors.
- 1st Floor Auxiliary.
- **Valid Auxiliary.**
- **Error Auxiliary.**
- **Button Area.**
- Button Time.
- **Disabled Access Time.**
- **Unused Floors.**
- **EMS ID Group/Lift**
- Floor Area assignment.

Service [MENU, 8]

- Request Service [1]
- Test Report [2]
- Security Options [3]
 - (No PIN default / Only own code edit / Installer Lockout)
- Answer Call [4]

Individual Communications Format Programming

Monitor

- Port to Use (0 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)

Answer Call

- Rings to Answer (0 to 255)
- Answer Options (Fax Bypass / 300 Baud Only / Callback Only / Timed Bypass / **Single DTMF** / **DTMF Control**)
- Line Test time (0 to 255 minutes)
- Special Options. (Pulse dial Main No. / Pulse dial PABX No. / Dumb dial / Force 300 baud † / *Test Mode*† / *Max. Count*† / **Abort Predial** / **60 Sec. re-dial**†)
- PABX number. (Selected from pre-programmed “Telephone Numbers”)
- Callback number. (Selected from pre-programmed “Telephone Numbers”)
- Customer number. (Selected from pre-programmed “Telephone Numbers”)
- Seize Auxiliary.
- DTMF Tone Wait.
- **Single DTMF Tone.**
- Line Test Count.
- Answer Wait.

† Not used in this Comms Task.

PC Direct

- Port to Use (0 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)

IRfast / IRfast Backup

- Client Code (4 numeric digits)
- PABX Number (Selected from pre-programmed “Telephone Numbers”)
- Telephone Number/s (Up to 4 numbers selected from pre-programmed “Telephone Numbers”)
- Dial Options (Pulse dial Main No. / Pulse dial PABX No. / Dumb dial / Force 300 baud / *Test Mode* / *Max. Count* / *Abort Predial* / **60 Sec. re-dial**)
- Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)
- Area List Filter (AL001 to AL250)*
- Extra Filter (Enable / Open/Close / Alarms)
- Mapping Options (Standard / Map-1 / School 30 / School 19 / SIMS II / **Access-1** / **Pacom** / Standard2 / School19B)
- Dialer formats Special Options:
 - Maximum Attempts.
 - Backup Attempts.
 - Backup Comms Task.
 - Seize Auxiliary.
 - Pass Auxiliary.
 - PABX Dial Wait.
 - Main Dial Wait.
 - Handshake Wait.
 - Maximum Online Time.
 - Line Test Count.
- IRfast Special Options. (Send Review Text / Send Contact ID string / Send Time&Date / Link to PC / Send Panel Information / Update Panel time)
- IRfast Extra Options. (Installer/User access for Panel Control / *Allow Door Control* / Allow Auxiliary Control / Allow Area Control)

Contact ID / CID Backup

- Client Code (4 numeric digits)
- PABX Number (Selected from pre-programmed “Telephone Numbers”)
- Telephone Number/s (Up to 4 numbers selected from pre-programmed “Telephone Numbers”)
- Dial Options (Pulse dial Main No. / Pulse dial PABX No. / Dumb dial / Force 300 baud / *Test Mode* / *Max. Count* / *Abort Predial* / **60 Sec. re-dial**)
- Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)
- Area List Filter (AL001 to AL250)*
- Extra Filter (Enable / Open/Close / Alarms)
- Mapping Options (Standard / Map-1 / School 30 / School 19 / SIMS II / **Access-1** / **Pacom** / Standard2 / School19B)
- Dialer formats Special Options. *See IRfast details above.*

EMS

- **Port to Use (1 to 4)**
- **Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)**
- **Number of EMS Floors.**
- **Group 1-8 Floors. (Assign Floor List per Group)**

SIA (Level 3) †

- Client Code (4 numeric digits)
- PABX Number (Selected from pre-programmed “Telephone Numbers”)
- Telephone Number/s (Up to 4 numbers selected from pre-programmed “Telephone Numbers”)
- Dial Options (Pulse/Tone dialling / Dumb dial / 300baud / *Test Mode* / *Max count*)
- Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Sing Hit report / No 24Hr Offs & Area still Open)
- Area List Filter (AL001 to AL250)*
- Extra Filter (Enable / Open/Close / Alarms)
- Mapping Options (Standard / Map-1 / School 30 / School 19 / SIMS II)
- Special Options

† Not yet available.

EarthNet

- Client Code (4 numeric digits)
- Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)
- Area List Filter (AL001 to AL250)*
- Extra Filter (Enable / Open/Close / Alarms)
- Mapping Options (Standard / Map-1 / School 30 / School 19 / SIMS II / **Access-1** / **Pacom** / Standard2 / School19B)
- EarthNet Special Options. (Send Review Text / Send Contact ID string / Send Time&Date / Link to PC / Send Panel Information / Update Panel time)
- EarthNet Extra Options. (Installer/User access for Panel Control / *Allow Door Control* / Allow Auxiliary Control / Allow Area Control)
- **Polls before Test.**
- **Maximum alarms per Poll.**

Securitel

- Hard ID (4 numeric digits)
- Port to Use (1 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)
- Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)
- Area List Filter (AL001 to AL250)*
- Extra Filter (Enable / Open/Close / Alarms)
- Special Options.
 - Poll Wait time
 - CommandBack Aux
 - Backup Comms Task*

Printer

- Port to Use (1 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)
- Events Filter options.
Screen 1 (Alarms / Comms Triggers / Auxiliaries / Sirens / Logon/Logoff / Area On/Offs / Isolates / Modules)
Screen 2 (General / Times / Details / Comms / Lifts / Errors)
- **Area List Filter.**

External Modem

- Rings to Answer (0 to 255)
- Port to Use (1 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)
- Special Options. (Pulse dial Main No. / Pulse dial PABX No. / Dumb dial / Force 300 baud† / *Test Mode*† / *Max. Count*† / *Abort Predial*† / **60 Sec. re-dial**†)
- PABX number.† (Selected from pre-programmed “Telephone Numbers”)
- Callback number.† (Selected from pre-programmed “Telephone Numbers”)
- Customer number. (Selected from pre-programmed “Telephone Numbers”)
- Seize Auxiliary.
- DTMF Tone Wait.
- **Single DTMF Tone.**†
- Line Test Count.†
- Answer Wait.

† Not used in this Comms Task.

Inet

- Port to Use (1 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)
- Client Code.
- Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Re-stores / No 24Hr Offs & Area still Open)
- Area List Filter (AL001 to AL250)*
- Extra Filter (Enable / Open/Close / Alarms)
- Mapping Options (Standard / Map-1 / School 30 / School 19 / SIMS II / Access-1 / Pacom / Standard2)
- Special Options. (Translate / USE ENCRYPTION / No CRC)
- ENCRYPTION KEY (8 HEX DIGITS)
- Alarm Format. (0=IRfast / 1=Text / 2=Contact ID)
- Alarm Acknowledge Time. (0 to 255 seconds)
- Test Time. (0 to 255 seconds)
- Pace Time. (0 to 255 100mSecond periods)
- Backup Comms Task

Accept (formerly CommPass)

- Port to Use (1 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)
- Client Code.
- Reporting Options† (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)
- Area List Filter† (AL001 to AL250)*
- Extra Filter† (Enable / Open/Close / Alarms)
- Accept Special Options. (Single User / Packet Nos.‡ / CRC On‡ / Encryption Key default / Debug‡)

† Not used in this Comms Task.

‡ Factory options only.

Poll-Data

- **Port to Use (1 to 4)**
- **Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)**
- **Client Code (4 numeric digits)**
- **Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)**
- **Area List Filter (AL001 to AL250)***
- **Extra Filter (Enable / Open/Close / Alarms)**
- **Mapping Options (Standard / Map-1 / School 30 / School 19 / SIMS II / Access-1 / Pacom / Standard2 / School19B)**
- **Special Options.**
Backup Comms Task

Pacom

- **Port to Use (1 to 4)**
- **Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)**
Pacom Options.

IRfast Backup. See *IRfast*

CID Backup. See *Contact ID*

GSM Data

- Port to Use (1 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)
- Service Number. (Selected from pre-programmed "Telephone Numbers")
- SMS 1 Number. (Selected from pre-programmed "Telephone Numbers")
- SMS 2 Number. (Selected from pre-programmed "Telephone Numbers")
- Contact ID Number. (Selected from pre-programmed "Telephone Numbers")
- GSM Registration Zone. (?xx:Zxx)

- GSM Options. (Backup Task / Send Contact ID Data / Send SMS Alarms / Answer Call / PIN code control only / Debug Display / Display RSSI data)
- GSM Special Options. (Area Control / Auxiliary Control / List / Isolate Zones / **No Error Replies**)

- SMS Area List Filter (AL001 to AL250)*
- SMS Extra Filter (Enable / Open/Close / Alarms)
- SMS Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)
- Maximum messages per 5 minutes.
- Client Code.

- Mapping Options (Standard / Map-1 / School 30 / School 19 / SIMS II / Access-1 / Pacom / Standard2 / School19B)
- CID Area List Filter
- CID Extra Filter (Enable / Open/Close / Alarms)
- CID Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)
- **SMS Acknowledge Time.** [Formerly Maximum attempts]
- Backup Comms Task.

- GSM SPECIAL OPTIONS:
- FE2000 VERSION NUMBER.

SpreadNet Wireless Interface

- Port to Use (1 to 4)
- Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)
- Property Code.
- Channel Number
- SpreadNet Review options. (Log Review Events for: Levels / Timeouts / Errors / Changes)
- Specify Transmitters to poll.
- Specify High priority Transmitters.

4+2 Pulse

- **Client Code (4 numeric digits)**
- **PABX Number (Selected from pre-programmed “Telephone Numbers”)**
- **Telephone Number/s (Up to 4 numbers selected from pre-programmed “Telephone Numbers”)**
- **Dial Options (Pulse dial Main No. / Pulse dial PABX No. / Dumb dial / Force 300 baud / Test Mode / Max. Count / Abort Predial /60 Sec. re-dial)**
- **Reporting Options (Multiple Area client codes / Look ahead opt. / Gen. Open/Close / Prevent Restores / No 24Hr Offs & Area still Open)**
- **Area List Filter (AL001 to AL250)***
- **Extra Filter (Enable / Open/Close / Alarms)**

- **Open/Close Codes**
- **4+2 Format Options. (2300Hz Ack / 1900Hz Data / 40 PPS / Hex / Checksum / Backup)**

- **Dialer formats Special Options**
- **Maximum Attempts.**
- **Backup Attempts.**
- **Backup Comms Task.**
- **Seize Auxiliary.**
- **Pass Auxiliary.**
- **PABX Dial Wait.**
- **Main Dial Wait.**
- **Handshake Wait.**
- **Maximum Online Time.**
- **Line Test Count.**

8 Pin

- **8 Pin Options (General Open/Close / Extended Verify Time)**
- **Verify Time (0 - 255 Seconds)**
- **Verify Count (0 - 255)**
- **Pin 1 Auxiliary**
- **Area List Filter (AL001 to AL250)***

C-BUS

- **PORT TO USE (1 TO 4)**
- **BAUD RATE (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)**

- **PC UNIT ADDRESS (0 TO 255)**
- **APPLICATION #1**
- **APPLICATION #2**
- **“C-BUS OK” ZONE INPUT**
- **C-BUS OPTIONS (SAVE TO REVIEW)**

INOVONICS WIRELESS INTERFACE

- PORT TO USE (1 TO 4)
- BAUD RATE (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)

- APPLICATION ID.
- SYSTEM ID
- HIGH POLL RATE (0 TO 255 MINUTES)
- LOW POLL RATE (0 TO 255 x HIGH POLL)
- “IR400 OK” ZONE INPUT
- “FA400 OK” ZONE INPUT
- INOVONICS REVIEW OPTIONS. (LOG REVIEW EVENTS FOR: ALL TRANSMITTER ACTIVITY / ONLY INPUT STATUS CHANGES / ALL TRANSMITTER TIMEOUTS / ID MISMATCHES)
- SPECIFY TRANSMITTERS TO POLL.
- SPECIFY HIGH PRIORITY TRANSMITTERS.

PosData DVR

- **Port to Use (1 to 4)**
- **Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)**

Dynalite

- **Port to Use (1 to 4)**
- **Baud Rate (300 / 600 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400)**

Model 3000 & Access 4000

Memory Configurations V4.5

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MODEL 3000 / ACCESS 4000 MEMORY CONFIGURATIONS. V4.5

A significant feature of the 3000/Access 4000 products is the ability to adapt the memory to suit the requirements of the particular system installation.

Memory Size.

Definitions: The Memory installed in Model 3000 / Access 4000 Control Modules has traditionally been specified in Bytes. Some manufacturers choose to specify memory capacity in Bits, thereby making the memory size sound much larger. (There are 8 Bits in a Byte of memory) This can create confusion for the specifier or installer.

In order to allow memory capacity to be compared in different products, memory sizes for the '3000/4000 are now being defined in both formats. The original "Byte" format will still be provided first, followed by the "Bit" format in brackets.

Initially, the Installer must choose the appropriate Memory Size to suit the size of the installation.

The 3000 is fitted with 32k (256kBit) Memory in the factory, but can be upgraded to 128k (1MBit) or 512k (4MBit) if required.

The Access 4000 is fitted with 128k (1MBit) in the factory but can be upgraded to 512k (4MBit) when necessary.

Memory Configuration

Secondly, the Installer has the option to choose an appropriate Memory Configuration so that the available memory is utilized in the most effective way for each particular system. In most cases the "Standard" configuration offers a practical mix of modules and items for the majority of installations. "Access", "Enlarged", "Special" and "Alarms" configurations cater for systems that have a greater emphasis on particular applications, while maintaining the concept of fully integrated systems.

Determining the Memory Size and Configuration.

System Information can be viewed at an LCD Terminal by Pressing <MENU>, <2> while logged off (or just <MENU> if V2 or earlier). The Memory information is provided in the following format:

RAM: 128K-00-04.56

This string represents the:

- RAM size. e.g. 32K, 128K or 512K.
- Memory configuration option selected:

00 = Standard.	01 = Access.	02 = Enlarged.
03 = V2 Standard.	04 = V2 Access.	05 = Special.
		06 = Alarms.
- Firmware version used when Memory configured (defaulted)

Notes: 1) Firmware Version 00.00 = configuration performed before this feature was added.
 2) If not 00.00, Firmware Version in this information string must match Firmware version fitted to Panel.

Choosing the right configuration.

The Memory Configuration Selection Guide tables on the following pages provide a summary of the different configurations in each memory size, providing suggested applications and numbers of the basic modules and items.

Full Memory configuration details are also provided for each of the three memory sizes in the larger tables that follow the summaries. Once a configuration is chosen with the summary information, the full table should be checked to ensure that the configuration is suitable for all aspects of the system.

IMPORTANT NOTE:

The following system features are only available in the "Access 4000" version of the product, regardless of Memory size installed:

- "Card only" Users.
- Lift Access Control.
- Dedicated Door Interlocking logic.
- Dedicated, Zoned Air-conditioning control logic.

Memory configuration changes

Memory configuration options have been further enhanced in Version 4.5 to provide for additional modules and features and provide more flexibility for the wide variety of installations where the product is now used.

The configurations currently available for each Memory size are “Standard”, “Access”, “Enlarged”, “Apartments”, “Access-2”, “Special”, “Alarms” and “XDoor”.

V4.5 Changes

Changes from V4 to V4.5 were primarily made to:

- Add the “Apartments” and “Access 2” configurations. (Replaces the “V2 Std” and “V2 Access” configs)
- Increase the number of Auxiliary Lists in the 32k (256kBit) “Special” configuration to 8 for domestic applications.
- Add Automation Interface Auxiliaries (formally “C-Bus” Auxiliaries) to all 128k (1MBit) configurations.
- Add LAN Power Supply Modules to all 128k (1MBit) and 512k (4MBit) configurations.
- Increase the number of Telephone numbers to 32 for all 512k (4MBit) configurations for SMS List applications.
- Ability to cater for Extra Door/Extra Door List assignment in User database.

V4 Changes

Changes from V3.5 to V4 were only made in 512k (4MBit) configurations to:

- Add C-Bus Auxiliaries to all 512k (4MBit) configurations.
- Increase the Zone Input, Standard Door, Intelligent Door and Lift Car List capacity of the 512k (4MBit) “Special” configuration.
(Providing a configuration that supports 128 Intelligent Doors & 96 Standard Doors)
- Provide for up to 8 Intelligent Doors, 64 Calculated Auxiliaries and 48 Lift Car Lists in the 512k (4MBit) “Enlarged” configuration.

For Sites upgrading from V2 where it is important to preserve the V2 Memory configuration, the “V2 Standard” and “V2 Access” Memory configurations are available. These options largely maintain the V2 configurations and add a token amount of the newer V3 to V4 options where possible. Full details of the “V2” configurations are found on page 9.

Note that in all 32k (256kBit) and 128k (1MBit) configurations there is no difference between V3.5 and V4, and that the changes in the 512k configurations are minimal as detailed above and in the tables.

V3.5 Changes

Changes from V3 to V3.5 were primarily made to:

- Accommodate the Analogue Input Module and the Intelligent 4 Dr Access Module in 32k (256kBit) Memory configurations.
- Add the “Alarms” configuration to 128k (1MBit) and 512k (4MBit) configurations. This provides more Zone Inputs by increasing the number of “B” type Expanders (32 Zone Expanders) in each configuration.
The 512k (4MBit) “Alarms” configuration also provides more TimeZones, Auxiliary Lists, Menu Groups, Phone Numbers and Function Zones and still allows for 128 Doors via a combination of Standard and Intelligent Reader Modules.

V3 Changes

Changes from V2 to V3 were primarily made to:

- Accommodate the Analogue Input Module and Intelligent 4 Door Access Module (Avail. V3.5) options.
- Add Home Zones, Counters and DTMF Remote Control.
- Provide more flexibility in all three Memory size options with some changes to the existing configurations and the utilization of the “Special” configuration for field use.

V2 Changes

In addition to the changes listed above, other changes made when V2 was released also need to be taken into account.

The main changes made from V1 to V2 were to:

- Accommodate the 16 Zone (E type) and 32 Zone (B type) Expander module options. (Note that there is no physical difference between E and B type Expanders. A DIP switch is used to select whether the Expander will support 16 Zones/Auxiliaries or 32 Zones/Auxiliaries.)
- Add in support for 24,576 Card only Users (512k [4MBit] Access)
- Add Mini Expanders, SpreadNet, Interlocks and Airconditioning control.
- Provide more flexibility in the 32k (256kBit) and 512k (4MBit) Memory size options.

Upgrading or Re-configuring the Memory

Note: Memory Size, Memory configuration and Control Module PCB Type can be checked from an LCD Terminal.
See “System Information” in the System Overview section for details.

Type 2 Control Module Boards.

Two IC chips are supplied to upgrade the Memory Size; the “RAM” chip itself and the “PIC Micro chip” (U14) to enable the additional memory. This table provides details of the chipsets for each Memory size and can be used to ensure that the correct PIC Options Microchip is fitted.

If features unique to Access 4000, or other special features are required, this table can also be used to ascertain whether the Control Module is configured as a Model 3000 or Access 4000, or has any special options enabled.

Memory Size	Product	SRAM [^]	PIC Micro Chip (x.xx = Version no.)		Notes
			Up to V1.09	V1.14 or later	
32k (256kBit)*	3000	DS1230	CEPIC_1 Vx.xx	CEPIC_1 Vx.xx	Standard 3000
128k (1MBit)*	3000	DS1245	CEPIC_2 Vx.xx	N/A	Use Std Access 4000
128k (1MBit)	Access 4000	DS1245	CEPIC_3 Vx.xx	CEPIC_2 Vx.xx	Standard Access 4000
512k (4MBit)*	3000	DS1250	CEPIC_4 Vx.xx	N/A	Use Access 4000 512k
512k (4MBit)	Access 4000	DS1250	CEPIC_5 Vx.xx	CEPIC_3 Vx.xx	
Special Options:					
512k (4MBit)	Access 4000	DS1250	CEPIC_6 Vx.xx	CEPIC_4 Vx.xx	High Level Lift I/F.
128k (4MBit)	Access 4000	DS1245	Not yet available.	Not yet available.	Geoquip.
128k (4MBit)	Access 4000	DS1245	N/A	CEPIC_5 Vx.xx	Inov Wireless 96 Zones
512k (4MBit)	Access 4000	DS1250	N/A	CEPIC_6 Vx.xx	Inov Wireless 208Zones
32k (256kBit)*	3000	DS1230	N/A	CEPIC_7 Vx.xx	Prog Site Code
128k (4MBit)	Access 4000	DS1245	N/A	CEPIC_8 Vx.xx	Prog Site Code
512k (4MBit)	Access 4000	DS1250	N/A	CEPIC_9 Vx.xx	Prog Site Code

* Not currently available in Australia and New Zealand.

[^] ST Brand equivalent: DS1230 = M48Z35 DS1245 = M48Z128 DS1250 = M48Z512

Type 0 (Australia & NZ only) and Type 1 Control Module Boards.

Two IC chips are supplied to upgrade the Memory Size; the “RAM” chip itself and the “Memory Size GAL” chip (U5) to enable the additional memory. This table provides details of the chipsets for each Memory size and can be used to ensure that the correct GAL is fitted.

If features unique to Access 4000 are required, this table can also be used to ascertain whether the Control Module is configured as a Model 3000 or Access 4000 by checking the Options GAL - U4.

Memory Size	Product	SRAM [^]	Mem. Size GAL (U5)	Options GAL (U4)
32k (256kBit)	3000	DS1230	U5-2	U4-0
128k (1MBit)	3000	DS1245	U5-5	U4-0
128k (1MBit)	Access 4000	DS1245	U5-5	U4-1
512k (4MBit)	3000	DS1250	U5-6	U4-0
512k (4MBit)	Access 4000	DS1250	U5-6	U4-1

[^] ST Brand equivalent: DS1230 = M48Z35 DS1245 = M48Z128 DS1250 = M48Z512

General Information.

When upgrading the Memory size or choosing a new Memory configuration for an existing system, care must be taken to ensure that any existing programming that must be preserved, is not lost.

The *Programmer's Reference* section of the manual provides details of the procedures for upgrading and/or re-configuring the memory. This information can be found under “Memory Defaulting” [<MENU>, 7, 5, 2]. The procedure will require a PC with Upload/Download software installed.

Upgrading the Control Module Firmware

On some occasions, when upgrading or re-configuring the Memory, you may also be required to Upgrade the Control Module Firmware Version.

Before attempting to upgrade Control Module Firmware, the following information should be taken into account.

V1 to V4.5.

Extreme care should be exercised if also upgrading the Control Module firmware from V1 to V4.5, as the Memory configurations now differ quite significantly and the Control Module PCB will also have to be upgraded from Type 0 to Type 2 or later.

Type 1 Control Module Hardware.

These Control Modules can only be upgraded to V4.

V2 to V4.5.

If upgrading from V2 to V4.5 there are also configuration changes that will need to be checked. The Control Module Type will also need to be checked, as it may have been a Version 1 panel (Type 0 PCB) that has been previously upgraded to V2. (Australia and NZ only)

Custom Memory Configurations.

If a Control Module Firmware Upgrade is required on a system that has a Custom Memory Configuration, a new Custom Memory Configuration must be purchased.

A Custom Memory Configuration is structured for a particular Firmware Version and must therefore be re-done if the Firmware Version is upgraded.

Control Module PCB Type and Firmware Version number can be checked from an LCD Terminal.

See "System Information" in the System Overview section for details.

The *Programmer's Reference* section of the manual provides details of the procedures for upgrading and/or re-configuring the memory. This information can be found under "Memory Defaulting" [<MENU>, 7, 5, 2]. The procedure will require a PC with Upload/Download software installed.

Memory Configuration Selection Guide

32k (256kBit) Summary. V4.5. (Also applicable to V3.5 & V4 with the exception noted below)

V4.5 Config. (V3.5/V4)	Description	Users.	Areas.	Standard / Intelligent Drs. (Total Doors)	LCD Terminals	Total Zones on Expander Modules.	DTMF Remote Controls	Review Events
32K (256kBit) Standard	-Intruder alarm: 4 Expanders/1 Mini Exp. -4 Door Access control. -Extra Areas (24) -Extra DTMF codes (8)	100. 50 names	24	4 / 0 (4)	8	88	8	300
32K (256kBit) Access	-8 Door Access control. -Intruder Alarm: 3 Expanders/No Mini Exp. -Extra Review Memory (550 Events)	100. 50 names	16	8 / 0 (8)	8	64	4	550
32K (256kBit) Enlarged	Similar to Access. -Up to 8 Intelligent Doors. -2 Mini Expanders only.	100. 50 names	8	4 / 8 (12)	8	32	4	500
32K (256kBit) Apartments ^	-Intruder alarm: 2 Expanders/1 Mini Exp. -8 Door Access control. -Extra Areas (32) -100 Users with names.	100.	16	8 / 0 (8)	8	40	4	400
32K (256kBit) Access 2 ^	-8 Door Access control. -Intruder Alarm: 3 Expanders/No Mini Exp. -100 Users with names.	100.	16	8 / 0 (8)	8	64	4	400
32K (256kBit) Special	-Extra Auxiliary Lists (8) * DTMF codes (8) Home Auxes (16) HomeZones (16) (for Domestic installations) -4 Door Access control. -Intruder Alarm: 2 Expanders/3 Mini Exp.	50.	16	4 / 0 (4)	8	72	8	300
32K (256kBit) Alarms ^	More Zone Inputs. -Intruder alarm: 4 Expanders. -4 Door Access control.	50.	16	4 / 0 (4)	8	96	4	300

NOTES: 1) * 8 Auxiliary Lists only available in V4.5 or later. Previous Versions provided 2 Auxiliary Lists.

2) ^Apartments, Access 2 and Alarms configurations are only relevant to V4.5 or later.
 “Apartments” and “Access 2” have replaced the “V2 Std” and “V2 Access” configurations respectively.
 In the 32k memory, “Apartments” is a new configuration, while the “Access 2” configuration is the same as the previous “V2 Access” configuration.

128k (1MBit) Summary. V4.5

V4.5 Config.	Description	Users	Areas	Total Doors. Total Lifts.	Standard Doors.	Intelligent Doors.	LCD Terminals	Total Zones on Expander Modules.
128K (1MBit) Standard	-Large intruder alarm 10 Expanders. 5 Mini Expanders. -32 Door Access control -Extra User Codes (2000)	2000. 100 names	96	32 3	32	0	32	264
128K (1MBit) Access	-64 Door Access control. -Intruder Alarm 8 Expanders. 4 Mini Expanders.	1000	32	64 6	64	0	16	192
128K (1MBit) Enlarged	-Enlarged Intruder alarm 14 Expanders. 10 Mini Expanders. -Extra Wireless Zones (96) -16 Door Access control -Extra Menu Groups (16) -Extra HomeZones (64)	1000. 100 names	96	16 3	16	8	32	400
128K (1MBit) Apartments	-Large intruder alarm 10 Expanders. 5 Mini Expanders. -32 Door Access control -Extra User Codes (2000) -Extra Menu Groups -Extra Access Groups	500	48	48 4	48	16	32	232
128K (1MBit) Access 2	-64 Door Access control. -Intruder Alarm 8 Expanders. 4 Mini Expanders. -Extra Menu Groups -Extra Access Groups	1000	32	64 6	64	0	16	160
128K (1MBit) Special	-64 Door Access control. -Intelligent Reader module option* (Up to 32 Doors) -Intruder Alarm with additional Mini Expanders 3 Expanders. 16 Mini Expanders.	1000	32	48 4	16	32	16	192
128K (1MBit) Alarms	-Enlarged Intruder alarm 15 Expanders. ("B" type) 4 Mini Expanders. -Extra Wireless Zones (64) -16 Door Access control -Extra Menu Groups (16) -Extra HomeZones (64)	1000. 200 names	64	16 3	16	8	32	512

NOTES: 1) ^Apartments and Access 2 configurations are only relevant to V4.5 or later.
 "Apartments" and "Access 2" have replaced the "V2 Std" and "V2 Access" configurations respectively.
 In the 128k memory, the parameters of these two configurations has remained unchanged.

512k (4MBit) Summary. V4.5

Potentially, a maximum of 250 Modules can be connected to the LAN in 512k (4MBit) Memory configurations.
 Note that the total numbers of Modules currently available in some 512k (4MBit) configurations may exceed this figure.
 (In practice the maximum number of modules installed in a single system will be determined by the module types used and the amount of system activity generated)

V4.5 Configs.	Description	Users	Card Only Users	Areas	Total Doors Total Lifts.	Standard Doors.	Intelligent Doors.	LCD Terminals	Total Zones on Expander Modules.
512K (4MBit) Standard	-Extremely large intruder alarm configuration: 64 Exp./24 Mini Exp. -128 Door Access control -Max Wireless Zones (208)	4000	0	250	128 16	128	0	99	1536
512K (4MBit) Access	-240 Door Access control. -Additional Card Users. -Intelligent Reader module option (Up to 32 Doors) -Very Large Intruder Alarm 25 Exp./10 Mini Exp.	500	24576	128	240 16	150	32	48	560
512K (4MBit) Enlarged	-176 Door Access control -Very Large Intruder alarm 32 Expanders. 16 Mini Expanders. -Max Wireless Zones (208)	4000	0	128	176 16	128	16	48	768
512K (4MBit) Apartments ^	-208 Door Access control. -Extra Automation entities. -Intelligent Reader module option (Up to 48 Doors) -32 Analogue Modules -16 LAN Power supplies. -Very Large Intruder Alarm 20 Exp./99 Mini Exp. -Max Wireless Zones (208)	2000	0	128	208 8	198	48	99	1176
512K (4MBit) Access 2 ^	-208 Door Access control. -Additional Card Users. -Intelligent Reader module option (Up to 192 Doors) -Large Intruder Alarm 16 Exp./8 Mini Expanders. -12 LAN Power Supplies.	2000	16384	64	208 16	16	192	48	576
512K (4MBit) Special	-176 Door Access control. -Additional Card Users. -Intelligent Reader module option* (Up to 128 Doors) -Very Large Intruder Alarm 24 Exp./16 Mini Exp.	4000. 2000 names	8192	128	176 16	96	128	64	896
512K (4MBit) Alarms	-Extremely Large Intruder Alarm 64 "B" type Expanders. 16 Mini Expanders. -128 Door Access control. -Intelligent Reader module option (Up to 32 Doors) -Extra TimeZones, Menu Groups & Function Zones.	4000	0	200	128 16	96	32	75	2176

NOTES: 1) ^Apartments and Access 2 configurations are only relevant to V4.5 or later.
 "Apartments" and "Access 2" have replaced the "V2 Std" and "V2 Access" configurations respectively.
 In the 512k memory, these are both new configurations, and bear no resemblance to the "V2 Std" and "V2 Access" configurations.

32k (256kBit) Memory Configurations. V3.5 to V4.5

(^ Also applicable to V3.5 & V4 with the exceptions shown in brackets)

V3.5^ / V4^ / V4.5 32k (256kBit)	Standard	Access	Enlarged	Apartments NEW!	Access 2 NEW!	Special	Alarm
Users	100	100	100	100	100	50	50
User Names	50	50	50	100	100	50	50
User Types	16	16	16	16	16	8	8
Card Only Users *	0	0	0	0	0	0	0
Areas	24	16	8	16	16	16	16
Doors	4	8	16	8	8	4	4
Lift Cars *	0	0	0	0	0	0	0
Site Codes	3	3	3	3	3	3	3
TimeZones	8	8	8	8	8	8	8
Holidays	8	8	8	8	8	8	8
Diaries	5	5	5	5	5	5	5
Review Memory	300	550	500 (550)	400	400	300	300
Counters	4	0	0	4	0	4	4
Area Lists	16	16	8	16	16	16	16
Doors Lists	8	16	16	16	16	8	8
Siren Lists	8	8	2	4	8	8	8
Floor Lists *	0	0	0	0	0	0	0
Lift Car Lists *	0	0	0	0	0	0	0
Auxiliary Lists	2	2	2	8	2	8 (2)	2
Menu Groups	8	8	8	8	8	8	8
Access Groups	8	8	8	8	8	8	8
Process Groups	16	16	16	16	16	16	16
Interlock Groups *	0	0	0	0	0	0	0
Comms Tasks	5	5	5	5	5	5	5
Phone Numbers	6	6	6	6	6	6	6
DTMF Controls	8	4	4	4	4	8	4
Function Zones	32	16	16	16	16	32	32
Calculated Auxes	16	16	16	16	16	16	16
Home Auxiliaries	8	8	8	8	8	16	16
Home Zones	8	0	0	0	8	16	0 (16)
Automation Auxiliaries	0	0	0	0	0	0	0
LCD Terminals	8	8	8	8	8	8	8
Expander 32Z	1	1	0	0	1	1	2 (1)
Expander 16Z	3	2	0	2	2	1	2 (1)
Reader Modules	2	4	2	4	4	2	2
Mini Expanders	1	0	2	1	0	3	0 (3)
Analogue Modules	0	0	1	0	0	0	0
Intelligent Readers	0	0	2	0	0	0	0
Wireless Network Modules	0	0	0	0	0	0	0
AirCon Control *	0	0	0	0	0	0	0

- NOTES:**
- 1) Only Users with names have Expiry dates in the 32k Memory configurations.
 - 2) * Only available in Access 4000.
 - 3) ^ Changes from V3.5 / V4. Where values differ from V3.5/V4, the old values are shown in brackets.

128k (1MBit) Memory Configurations. V4.5

(^ Also applicable to V3.5 & V4 with the exceptions shown in brackets)

V3^ / V4^ / V4.5 128k (1MBit)	Standard	Access	Enlarged	Apartments NEW!	Access 2 NEW!	Special	Alarms
Users	2000	1000	1000	500	1000	1000	1000
User Names	100	1000	100	500	1000	1000	200
User Types	32	64	32	64	64	64	48
Card Only Users *	0	0	0	0	0	0	0
Areas	96	32	96	48	32	32	64 (96)
Doors	32	64	16	48	64	48 (64)	16
Lift Cars *	3	6	3	4	6	4	3
Site Codes	6	5	6	6	5	6	5
TimeZones	32	32	32	32	32	32	32
Holidays	16	16	16	16	16	16	16
Diaries	10	10	10	10	10	10	10
Review Memory	2000	2000	2000	2000	2000	2000	2000
Counters	8	8	16	4	4	8	8
Area Lists	96	32	96	48	32	32	64 (96)
Doors Lists	48	64	32	48	64	48 (64)	32
Siren Lists	32	16	32	16	16	8 (16)	32
Floor Lists *	24	48	24	32	32	32 (48)	24
Lift Car Lists *	6	12	6	6	6	8	6
Auxiliary Lists	32	32	32	16	32	32	32
Menu Groups	16 (8)	8	16	8	8	8	16
Access Groups	16	12 (16)	16	12	16	16	8
Process Groups	32	24 (32)	32	32	32	32	32
Interlock Groups *	16	32	12	8	16	16 (32)	8
Comms Tasks	6	6	6	6	6	6	8
Phone Numbers	8	8	8	12	12	8	12
DTMF Controls	16	16	16	8	8	16	16
Function Zones	32	16	32	32	16	16	32
Calculated Auxes	32	16	32	32	16	16	32
Home Auxiliaries	64	32	64	32	32	32	32
Home Zones	32	16	64	16	16	16	64
Automation I/F Auxiliaries ^	16 (0)	16 (0)	16 (0)	16 (0)	16 (0)	16 (0)	16 (0)
LCD Terminals	32	16	32	32	16	16	32
Expander 32Z	4	2	6	2	2	1	15
Expander 16Z	6	6	8	8	4	2	0
Reader Modules	16	32	8	32	32	8	8
Mini Expanders	5	4	10	5	4	16	4
Analogue Modules	2	4	4	2	2	4	4
Intelligent Readers	0	0	2 (0)	4	0	8	2
LAN Pwr Supply Modules	2 (0)	2 (0)	2 (0)	6 (0)	6 (0)	2 (0)	2 (0)
Wireless Network Modules	2	2	6 (8)	2	2	2	4
AirCon Control *	2	2 (4)	2 (4)	2	2	2 (4)	2 (4)

- NOTES:
- 1) Only Users with names have Expiry dates in the 128k Memory configurations.
 - 2) * Only available in Access 4000.
 - 3) "Automation I/F Auxiliaries" were formerly called "C-Bus Auxiliaries".
 - 4) ^ Changes from V3.5 / V4. Where values differ from V3.5/V4, the old values are shown in brackets.

512k (4MBit) Memory Configurations. V4.5

(^ Also applicable to V3.5 & V4 with the exceptions shown in brackets)

V3.5^ / V4^ / V4.5 512k (4MBit)	Standard	Access	Enlarged	Apartments NEW!	Access 2 NEW!	Special	Alarms
Users	4000	500	4000	2000	2000	4000	4000
User Names	4000	500	4000	2000	2000	2000	4000
Extra Door/DList for PINs	0	0	0	2000	0	0	0
Extra Door/DList for Cards	0	0	0	0	0	0	0
User Types	128	250	250	128	128	250	200 (250)
Card Only Users *	0	24576	0	0	16384	8192	0
Areas	250	128	128	128	64	128	200
Doors	128	240	176	208	208	176	128
Lift Cars *	16	16	16	8	16	16	16
Site Codes	16	16	32	8	16	16	32
TimeZones	64	64	64	64	32	64	96
Holidays	32	16	16	16	16	16	16
Diaries	32 (16)	32	32	16	16	32	16
Review Memory	6500	6500	6500	6500	6500	6500	6500
Counters	16	16	32	128	16	16	16
Area Lists	250	128	128	128	128	128	200
Doors Lists	128	240	240	128	128	240	128
Siren Lists	128	64	64	32	16	64	64 (128)
Floor Lists *	128	200	250	128	64	250	64
Lift Car Lists *	16	32	48	16	16	64	16
Auxiliary Lists	32	32	32	32	16	32	64
Menu Groups	32	32	32	16	16	32	32 (64)
Access Groups	32	32	32	16	16	32	32
Process Groups	128	64	64	32	32	64	64
Interlock Groups *	48	64	64	8	48	64	32
Comms Tasks	8	8	8	8	8	8	10
Phone Numbers	32 (16)	32 (16)	32 (16)	32	32	32 (16)	32
DTMF Controls	16	16	16	16	16	16	16
Function Zones	64	32	32	128	48	32	128
Calculated Auxes	64	32	64	128	32	32	64
Home Auxiliaries	128	128	128	128	64	128	128
Home Zones	64	32	128	32	32	32	128
Automation I/F Auxiliaries ^	48	48 (32)	64	128	48	64	64
LCD Terminals	99	48	48	99	48	64	75
Expander 32Z	20	5	8	4	16	16	64
Expander 16Z	44	20	24	16	0	16	0 (1)
Reader Modules	64	75	64	99	8	48	48
Mini Expanders	24	10	16	99	8	16	16
Analogue Modules	8	8	8	32	8	8	8
Intelligent Readers	0	8	4 (2)	12	48	32	8
LAN Pwr Supply Modules	8 (0)	8 (0)	8 (0)	16	16	8 (0)	4 (0)
Wireless Network Modules	13	4	13 (4)	13	4	4	8
AirCon Control *	4	4	4	4	4	4	4

- NOTES:
- 1) Only Users with names have Expiry dates.
 - 2) * Only available in Access 4000.
 - 3) “Automation I/F Auxiliaries” were formerly called “C-Bus Auxiliaries”.
 - 4) ^ Changes from V3.5 / V4. Where values differ from V3.5/V4, the old values are shown in brackets.

Version 3 Memory Configurations

The following tables provide the
Version 3 Memory configuration details for reference.

32k Memory Configurations. V3.

	32K Std	32K Access	32K Special	32K V2 Std	32K V2 Access
Users	100	100	50	100	100
User Names	50	50	50	100	100
User Types	16	16	8	16	16
Card Only Users	0	0	0	0	0
Areas	24	16	16	32	16
Doors	4	8	4	4	8
Lift Cars	0	0	0	0	0
Site Codes	3	3	3	3	3
TimeZones	8	8	8	8	8
Holidays	8	8	8	8	8
Diaries	5	5	5	5	5
Review Memory	300	550	300	200	400
Counters	4	0	4	4	0
Area Lists	16	16	16	16	16
Doors Lists	8	16	8	8	16
Siren Lists	8	8	8	16	16
Floor Lists	0	0	0	0	0
Lift Car Lists	0	0	0	0	0
Auxiliary Lists	2	2	2	2	2
Menu Groups	8	8	8	16	16
Access Groups	8	8	8	16	16
Process Groups	16	16	16	16	16
Interlock Groups	0	0	0	0	0
Comms Tasks	5	5	5	5	5
Phone Numbers	6	6	6	6	6
DTMF Controls	8	4	8	4	4
Function Zones	32	16	32	32	16
Calculated Auxes	16	16	16	16	16
Home Auxiliaries	8	8	16	8	8
Home Zones	8	0	16	16	8
LCD Terminals	8	8	8	8	8
Expander 32Z	1	1	1	1	1
Expander 16Z	3	2	1	3	2
Reader Modules	2	4	2	2	4
Mini Expanders	1	0	3	1	0
Analogue Modules	0	0	0	0	0
Intelligent Readers	0	0	0	0	0
SpreadNet	0	0	0	0	0
AirCon Control	0	0	0	0	0

NOTE: Only Users with names have Expiry dates in the 32k Memory configurations.

128k Memory Configurations. V3.

	128K Std	128K Access	128K Enlarged	128K Special	128K V2 Std	128K V2 Access
Users	2000	1000	1000	1000	2000	1000
User Names	100	1000	100	1000	100	1000
User Types	32	64	32	64	32	64
Card Only Users	0	0	0	0	0	0
Areas	96	32	96	32	96	32
Doors	32	64	16	64	32	64
Lift Cars	3	6	3	4	3	6
Site Codes	6	5	6	6	6	5
TimeZones	32	32	32	32	32	32
Holidays	16	16	16	16	16	16
Diaries	10	10	10	10	5	5
Review Memory	2000	2000	2000	2000	2000	2000
Counters	8	8	16	8	4	4
Area Lists	96	32	96	32	96	32
Doors Lists	48	64	32	64	48	64
Siren Lists	32	16	32	16	32	16
Floor Lists	24	48	24	48	24	48
Lift Car Lists	6	12	6	8	3	6
Auxiliary Lists	32	32	32	32	32	32
Menu Groups	8	8	16	8	16	16
Access Groups	16	16	16	16	32	32
Process Groups	32	32	32	32	32	32
Interlock Groups	16	32	12	32	16	32
Comms Tasks	6	6	6	6	6	6
Phone Numbers	8	8	8	8	12	12
DTMF Controls	16	16	16	16	8	8
Function Zones	32	16	32	16	32	16
Calculated Auxes	32	16	32	16	32	16
Home Auxiliaries	64	32	64	32	64	32
Home Zones	32	16	64	16	16	16
LCD Terminals	32	16	32	16	32	16
Expander 32Z	4	2	6	1	3	2
Expander 16Z	6	6	8	2	9	6
Reader Modules	16	32	8	8	16	32
Mini Expanders	5	4	10	16	5	4
Analogue Modules	2	4	4	4	2	2
Intelligent Readers	0	0	0	8	0	0
SpreadNet	2	2	8	2	2	2
AirCon Control	2	4	4	4	2	4

NOTE: Only Users with names have Expiry dates in the 128k Memory configurations.

512k Memory Configurations. V3.

	512K Std	512K Access	512K Enlarged	512K Special	512K V2 Std	512K V2 Access
Users	4000	500	4000	4000	4000	500
User Names	4000	500	4000	2000	4000	500
User Types	128	250	250	250	128	250
Card Only Users	0	24576	0	8192	0	24576
Areas	250	128	128	128	250	128
Doors	128	240	176	176	128	240
Lift Cars	16	16	16	16	16	32
Site Codes	32	32	32	32	32	32
TimeZones	64	64	64	64	64	64
Holidays	16	16	16	16	16	16
Diaries	32	32	32	32	32	32
Review Memory	6500	6500	6500	6500	6500	6500
Counters	16	16	32	16	32	8
Area Lists	250	128	128	128	250	128
Doors Lists	128	240	240	240	128	240
Siren Lists	128	64	64	64	128	64
Floor Lists	128	200	250	250	128	250
Lift Car Lists	16	32	32	32	16	32
Auxiliary Lists	32	32	32	32	32	32
Menu Groups	32	32	32	32	64	64
Access Groups	32	32	32	32	64	64
Process Groups	128	64	64	64	128	64
Interlock Groups	48	64	64	64	48	64
Comms Tasks	8	8	8	8	8	8
Phone Numbers	16	16	16	16	32	32
DTMF Controls	16	16	16	16	16	16
Function Zones	64	32	32	32	64	32
Calculated Auxes	64	32	32	32	64	32
Home Auxiliaries	128	128	128	128	128	128
Home Zones	64	32	128	32	64	32
LCD Terminals	99	48	48	64	99	48
Expander 32Z	20	5	8	8	20	5
Expander 16Z	44	20	24	16	44	20
Reader Modules	64	75	64	24	64	99
Mini Expanders	24	10	16	16	24	10
Analogue Modules	8	8	8	8	4	4
Intelligent Readers	0	8	0	16	0	0
SpreadNet	13	4	4	4	13	4
AirCon Control	4	4	4	4	4	4

Model 3000 / Access 4000

BASIC PROGRAMMING

GUIDE

This Basic Programming Guide provides a step-by-step approach to programming the general Alarm system and Access control features in the product.

For programming of additional features refer to the “Applications Programming Guide” section and/or the “Programming Reference” section.

For detailed explanations of individual programming options refer to the “Programming Reference” section.

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SYSTEM PROGRAMMING

Getting Started (General Options)

1. Power Up the System and check LAN communications

- 1.1 Check that all Terminals are operational and default messages are being displayed on the LCDs.
- 1.2 Check that all Modules installed on the LAN are powered up and communicating with the Control Module.
 - i) Enter **Module programming [MENU, 7, 2, ?]** to select the Module type to check.
 1=LCD Terminal **2**=LED Keypad **3**=Big Expander **4**=Reader Module
 6= Mini Expander **7**=Expander 16 **8**=Intelligent Reader **9**=Analogue Module
 - ii) Press **<ON>** to display the "Module Present/Absent" screen.
 - iii) Press the **<DOWN>** Arrow key to scroll through the module numbers and check for "Module Present - nnn".

NOTES:

- 1) The number (nnn) indicates the number of times the module has failed to acknowledge a poll from the Control Module since the last **LAN Secure [MENU, 7, 8, 1]** or **LAN Initialize [MENU, 7, 8, 2]** was performed.
- 2) Note that the "Fault LEDs" on the Modules can be used to diagnose and rectify problems.
See the "Installation and Troubleshooting" section and/or the Installation manual/s supplied with each Module.

2. Note equipment details.

- 2.1 Note the Address of any Expanders and Terminals on the system, and the purpose of any Zone Inputs & Auxiliaries connected to them. Note also any Control Module or Expander Sirens connected.

This information determines:

- a) The Zone Inputs and System Inputs that will need to be programmed.
- b) The Expanders, Terminals, Reader Modules, etc. that will need to be programmed.
- c) The Sirens that are available for inclusion in any "Siren Lists".
- d) The Auxiliaries that are available and/or need to be programmed.

You may choose to record these items using copies of the Blank programming sheets found on the latest Resources CD-ROM, or on the Advanced Technical Support section of the Web Site. (<http://www.innerrange.com.au/techsupp.html>)

These programming sheets are available in PDF format, and also as MS Excel spreadsheets.

Three separate files are provided:

RECORDS-V4_5-Acc Menu.PDF *Contains programming records for all databases in the Access Menu. [MENU, 2]*

RECORDS-V4_5-Comms.PDF *Contains programming records for all Comms Tasks. [MENU, 7, 3, 1]*

RECORDS-V4_5.PDF *Contains all other programming records.*

3. Default the Memory.

- 3.1 In a new installation, before any programming is done, you have the opportunity to ensure that the memory is defaulted to factory settings and/or to choose the best Memory Configuration for the installation.
- 3.2 Determine the Memory size fitted to the system and ensure it is appropriate for the system.
 Press **<MENU>, 2** (or just **<MENU>** if V2 or earlier). The memory information is displayed in the form:
 Ram: 128K-00-03.01
 Memory (RAM) size - Current Memory configuration option - Software version used when last configured.
 Memory configuration options: 00 = Standard. 01 = Access. 02 = Enlarged. 05 = Special.
 03 = Vx Standard. (x = V2 if V3 Firmware OR V1 if V2 Firmware)
 04 = Vx Access. (x = V2 if V3 Firmware OR V1 if V2 Firmware)
- 3.3 Using the tables in the *Memory Configurations* section of the manual, choose the best configuration for this system installation. "Standard", "Access", "Enlarged", "Special", "Vx Standard" or "Vx Access".

- 3.4 In the **Memory Defaulting** programming option [MENU, 7, 5, 2], select the default option required using the <RIGHT> Arrow key (usually “Standard”), then Press <OK>. Press <9> to confirm the selection.
CAUTION: Note that this will clear any previous programming and program certain pre-set options to simplify the programming procedure.

If the memory is being upgraded or re-configured in an existing system refer to “Memory Defaulting” in the Programming Reference section for procedures.

4. Program the General System options [MENU, 7, 5, 1]

- 4.1 AC Fail Delay Time. IF you do not want brief interruptions in the AC Mains supply to cause a Control Module AC Fail alarm, set an appropriate “Power Fail Delay Time”. This is the time, in minutes, that an AC Fail condition must be present at the Control Module, before it will generate an alarm.

NOTE: AC Fail Delay Time for Universal Expander Modules is set with a DIPswitch option on the Module. SW1, Switch 3. Off = 20 seconds. On = 255 seconds.

- 4.2 Program any of the Panel Options required. [N D F R f + I .] The more common options are:

-No Aux Off on Reset, IF Aux states are to be preserved after a System Reset.

-Detailed Review, IF you need highly detailed Review data for commissioning and program de-bugging.
(NOTE: Don’t forget to turn Detailed Review Off again, for general system operation)

-Ignore AC Fail Inputs, IF the entire system is running on a separate DC Power supply.

- 4.4 IF Battery Testing is to be implemented, program a general Battery Test time. This is the time period that will be used to perform battery testing on the Control Module.

5. Program Times

- 5.1 Set the current **Time and Date**. [MENU, 5, 1]

- 5.2 IF any User operation is required to be restricted or altered according to specific time period/s, then **TimeZones** [MENU 5, 2] need to be programmed (including a name), ready for use in the appropriate programming options.

- 5.3 If TimeZones are to take account of Holidays, program the **Holidays** [MENU 5, 3]. Holidays are specified in Date/Month format and can be a single date or a Holiday period with a start and end date.

- 5.4 If Holidays are programmed, they each must have at least one Holiday “Type” assigned (Usually just Type 1). Any TimeZone that is to be effected by Holidays must then have the appropriate Holiday Types assigned to it in **TimeZone programming** [MENU 5, 2].

NOTE: One or more of the default TimeZones may already suit your application. There are four default TimeZones with pre-programmed names and time periods. You may find them useful as programmed, or simply adjust the time periods to suit the system requirements.

Alarm Processing

1. Program the Inputs. [MENU 7, 0]

- 1.1 Program the Names of all **Inputs** [MENU 7, 0] (Zone Inputs and System Inputs) present in your system, as determined in *Getting Started, Step 2*. (NOTE: System Input names are pre-defined)

- 1.2 Program any of the Input Attributes required for each input in the system. [s C X S R A N T]
The more common options are:

-Swap Seal and Alarm. IF the Input device's contacts are normally Open and then Close on the Alarm condition. (The vast majority of devices are normally Closed, and go Open on an Alarm, so this option is normally left at No)

-Allow Auto Isolate. IF the Input is allowed to Automatically Isolate if un-sealed when the Area is turned on.

-No Test on Exit. IF the Input is likely to be un-sealed when the Area is turned on, and an Exit delay is programmed for the Area. (e.g. A PIR in an Entry Foyer where the LCD Terminal is located)

2. Check/Program Process Group requirements. [MENU, 2, 4, 3]

- 2.1 IF your system has any Input Processing requirements not covered by the default Process Groups, you may need to program additional **Process Groups**, and/or edit the default **Process Groups** as required. [MENU 2, 4, 3]

NOTE: The 14 Default Process Groups cover the majority of system requirements.

i.e.	BURGLARY	BURGLARY DELAYED	BURGLARY PRIMARY
	LOCAL SILENT	FIRE ZONE	DURESS*
	SYSTEM TAMPER	SYSTEM SILENT	AUTOMATION*
	ACCESS LOCAL	ACCESS ALARM	SYSTEM LAN
			ACCESS SILENT
			SYSTEM LOCAL

*V4.5 or later only.

3. Program any Siren Lists. [MENU 2, 3, 3]

- 3.1 Program the **Siren List/s** required. [MENU 2, 3, 3] A Siren List can be assigned to each Area to specify which Sirens will activate on relevant alarms in that Area. Use the details obtained in *Getting Started, Step 2*, to determine the Sirens available.

NOTES:

- Alarms in different Areas can activate different Sirens (or combinations of Sirens) if required. Program a different Siren List for each combination of Sirens.
- Keep a written record of Siren List programming details, as Siren Lists cannot be named in the on-board memory.

4. Program the Areas. [MENU 7, 1]

4.1 Program the details of each of the **Areas** required in your system. [MENU 7, 1]

The following options are commonly programmed:

Area Name. (Should always be programmed)

Entry delay time. (seconds) Exit delay time. (seconds)

Siren Mode. (normally "Instant") Siren List to sound. Siren Time. (minutes)

Open/Close Reporting options. [O C A N 2 S]

-Report: **Openings/Closings/Openings only after Alarm/Not general Area/24 Hour Offs*/Area Still Open***

*If intending to use, first check that the options are supported by the Comms format and the Central station.

4.2 Program the Auxiliaries to be activated. The following Auxiliaries are commonly used:

-Exit Auxiliary. IF required for Exit timer warning devices, etc.

-Entry Auxiliary. IF required for Entry timer warning devices, etc.

NOTE: An LCD Terminal Beeper can be used as an Exit and/or Entry warning device by assigning the LCD Terminal Beeper Auxiliary as the Exit and/or Entry Auxiliary in an Area.

Assign Txx:X05 for Continuous Beeeeeep.

Assign Txx:X04 for Pulsing Beeper. Elite Terminals only. "Pulse Beep" option needs to be enabled in Terminal configuration options. To enter Terminal configuration mode, Hold down the <HELP> key; Short LK2 (RESET); Wait 2 seconds; then release the <HELP> key.

Note: An Auxiliary Timer should also be programmed for that Auxiliary with a time period in seconds to ensure that the Beeper will turn off again.

-Siren Auxiliary. IF required for additional Sounder device/s to follow Sirens.

-Close Auxiliary. IF required to indicate Area Closed (On)

-24Hr (Tamper) Auxiliary. IF required to indicate Tamper Alarm.

-Alarm 1 to Alarm 4 Auxiliaries. IF required Alarm indication such as Strobe, etc.

-Isolate Auxiliary. If required to indicate an Isolate condition in the Area for Mimic panels, etc.

NOTE: The 24Hr, Alarm 1-4, and Isolate Auxiliaries will only be activated if enabled in the particular Process Group/s assigned to the Input/s in this Area.

4.3 Assign the relevant Inputs to the Area using an appropriate Process Group for each Input. Use the details obtained in *Getting Started, Step 2*, to determine the Inputs that need to be assigned to each Area.

4.4 At least one Area will have System Inputs assigned. There are two ways of assigning System Inputs to Areas.

1) Individually in the same way that Zone Inputs are assigned.

2) Collectively by using the "Add System Inputs" option via the Area Default procedure. *See below.*

Add System Inputs.

In some systems all system inputs are simply assigned to a "System Area". Alternatively, several different Areas may be used for different types of System Inputs. e.g. Tamper, Power problems, Comms problems and Access Alarms. Either option is simple to achieve with the "Add System Inputs" feature.

With this option, the installer chooses which type of system inputs are to be added, then the system will add those inputs to the Area using appropriate Process Groups from the Default Process Groups available.

NOTE: Only System Inputs on Modules currently communicating on the LAN will be assigned.

- i) Enter Area programming [MENU, 7, 1], select the Area number or name, then press <HELP> 9.
- ii) Use the <RIGHT> Arrow key to select "Add Sys. Inputs, then press <OK>.
- iii) Select which types of System Inputs that you want to assign to this Area by setting the appropriate option/s to [Y]es (9 key), then press <OK>.
- iv) Press the 9 (Yes) key to confirm the action.

Module Programming

1. LCD Terminals [MENU 7, 2, 1]

Program the attributes required for each LCD Terminal in the system.

- 1.1 Adjust the LCD Terminal “Poll Time” and “LAN Priority” **IF** this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.
- 1.2 Adjust the “Default Display message” options **IF** the default settings are not suitable.
- 1.3 Select the mode of LED operation. (V2 or later. Elite LCD Terminals only.)
IF the LEDs are not used, OR will be programmed to follow Terminal Auxiliaries, set Lamp Mode to “None”.
IF the LEDs are to display Area Status, set Lamp Mode to “Area Array”.
- 1.4 Assign an “Associated Area” to the Terminal. An Associated Area must be assigned when:
-Lamp mode is set to “Area Array”
-Any “Single Area...”, or “Multiple Area...” options, are selected in the Default display message options.
- 1.5 **IF** the LCD Terminal is to be restricted to operations on the Associated Area only, in the Access options; [I O A . Z S], set the “S” option (Single Area operations) to Yes.
- 1.6 **IF** access to specific information screens and control options is required without logging on to the Terminal, set the required “Logged Off options” to Yes. [A T L R H C] (V3 or later)
-Area Status Array.
-Area Status Text. 8 Areas beginning with the associated Area.
-View Latched Alarms.
-Alarm Review.
-Home Auxiliary Control.
-Air Conditioning Control.
- 1.7 **IF** access to Menu options is to be restricted or disallowed at an LCD Terminal, assign an appropriate “Menu Group”. (This is usually unnecessary as a User’s Access to specific Menu options is already restricted by the Menu Group assigned to their User Type.)
- 1.8 **IF** operations at an LCD Terminal are to be restricted to specific Area/s, assign an appropriate Area List in the “Area List Filter” option.

2. Big Expanders (32 Zone) [MENU 7, 2, 3] and 16 Zone Expanders [Menu 7, 2, 7]

- 2.1 Adjust the Expander “Poll Time” and “LAN Priority” **IF** this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.
- 2.2 **IF** Battery Testing is to be implemented, Program the “Battery Test time” required for each Big Expander/16 Zone Expander in the system. A battery test time of 1 to 3 minutes will effectively test for battery presence. Longer battery test times are preferable, but must be carefully considered based on the current consumption of the module and it’s peripherals. (V3 or later)

3. Mini Expanders (8 Zone) [MENU 7, 2, 6]

- 3.1 Adjust the Mini Expander “Poll Time” and “LAN Priority” IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.
- 3.2 Check that Zone Type is set to “Normal” for each Zone unless special functions for “Holdup”, “Suspicion”, or “Counter” are required.
- 3.3 Set Zone De-bounce to 300mS for each Zone unless faster de-bounce is required for special applications.

4. Initialize the LAN

If all modules are connected and operational and the system is complete, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

Door Programming

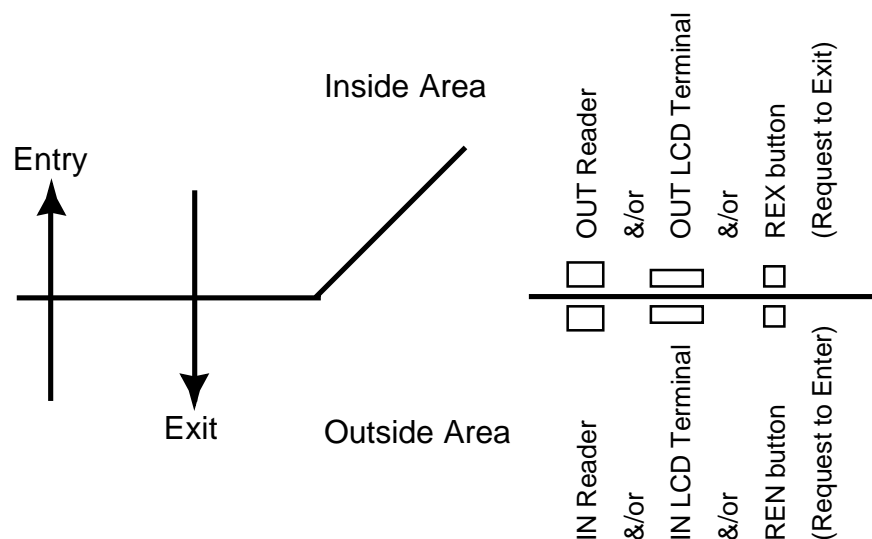
1. Note Door details.

1.1 Plan your Door programming requirements. For each Door note the:

- Door number to be used. (D002, D002, etc.)
 - Door name (location)
 - Reader Module being used. (R001, R002, etc.)
 - Reader Module Port that the IN and/or OUT Reader is connected to. (Rdr 1 or Rdr 2)
 - LCD Terminal/s used and their position/s. (IN or OUT)
 - “Inside” and/or “Outside” Area assigned.
- IF required for:
- Prevention of entry/exit into Areas that are turned On.
 - Area Off and/or On control by access Readers.
 - “Anti-passback” and “Wrong Area” processing.
 - Tracking of User location.
 - User counting in Areas.

The diagram below illustrates the relationship between the Door, the IN and OUT devices and the Inside and Outside Areas.

The table at the end of this section may be copied and used to record this information before programming is commenced.



2. Program the Reader Module/s [MENU 7, 2, 4]

Program the attributes required for each Reader Module in the system.

- 1.1 Adjust the Reader Module "Poll Time" and "LAN Priority" IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the "Poll Time" is displayed.
- 1.2 Check that the Reader Module Purpose is set to "Door Control".
- 1.3 Assign the 1st Door to be controlled by this Reader Module.
- 1.4 IF the Reader Module is to be used in "2 Door" Mode;
Assign the 2nd Door to be controlled by this Reader Module.
- 1.5 Program the Reader Module Options. [C E X F W N T 2]

Comms (LAN) Fail Options:

- Backup Cards operate. The Backup Cards enrolled into the system will still access the Door/s controlled by this Reader Module if it is Offline.
- REN button (Request to Enter) operation. The REN button will operate if the Reader Module is Offline.
- REX button (Request to Exit) operation. The REX button/s will operate if the Reader Module is Offline.
- First 2 Backup Cards only. Only the first 2 Backup Cards will operate if the Reader Module is Offline.

Other Options:

- DOTL Warning. (V3 or later Controller F'ware & V13 or later Reader Module F'ware required)
Set to Yes IF a DOTL Pre-alarm warning is required: via Aux 2 (Rdr 1 Valid Aux) for 1st Door.
via Aux 5 (Rdr 2 Invalid Aux) for 2nd Door.

See Programming Reference section for more details.

- No Valid/Invalid LED control. Set to Yes IF the LED Auxiliaries need to be used for other purposes.
- Tongue Sensing. Set to Yes IF Zone 6 (1st Door) and/or Zone 7 (2nd Door) are used for Tongue sense.
- 2 Door Mode. Set to Yes IF Reader Module is to be used in 2 Door Mode.

- 1.6 IF the Reader/s are to be used for turning an Area ON, (e.g. At an external door when the User is leaving the building) choose the appropriate Reader "Arming Mode". *See Programming Applications Guide for details.*
- 1.7 Set "Turn Off Extra Area" to Yes IF Auto Area Off is allowed at this Door (via Access Group programming) and the User's Extra Area is to be turned Off instead of the "Inside Area" assigned to the door.
- 1.8 Program the parameters for the first Reader (Rdr 1) connected to the Reader Module.
 - Reader location. Outside (the Reader is used to Enter) or Inside (the Reader is used to Exit).
 - Reader Format. Choose the correct Card data format. *See Programming Reference section for details.*
 - Reader Mode. Credit Card/Direct Entry/Site Code/Any Card. *See Programming Reference section for details.*
 - Keypad for PIN code Entry. IF Door requires Card + PIN for access.
If "HID5355" is used, ensure Reader part number is 5355xxK00. The last 3 characters must be K00 for correct keypad option and PIN code buffering. (xx = Revision and color options, and will not affect operation)
 - Module for PINs. IF "LCD Terminal" is selected as the Keypad for PIN in the previous option, program the module number (Txxx) of the LCD Terminal to be used.
- 1.9 Program the parameters for second Reader (Rdr 2) connected to the Reader Module.
Note: In 2 Door Mode, Rdr 1 controls the 1st Door and Rdr 2 controls the 2nd Door.
Options are the same as those for the first Reader.

3. Program any LCD Terminals used for Door Access Control. [MENU, 7, 2, 1]

The following is relevant to LCD Terminals used to control Doors via a User's PIN code only.

Note that the additional programming outlined below is not necessary if the LCD Terminal is only used for PIN code entry after a Card has been presented. i.e. Card + PIN operation.

Follow the instructions for general LCD Terminal Programming provided in the "Module Programming" section. Additional programming for Door Access Control:

3.1 Assign the Door to be controlled by the LCD Terminal.

3.2 Program the Door Access options. [I O A . Z S]

-Terminal is **Inside**. Set to No if the LCD Terminal is Outside (used to Enter) or Yes if the LCD Terminal is Inside (used to Exit).

-**OK** key for REX. Set to Yes IF the OK key is to be used as REX (Request to Exit) button. (e.g. Terminal is located Inside the Door, and PIN code is not required to exit.)

-Access Control Only. Set to Yes IF LCD Terminal is only to be used for Access Control.
CAUTION! Disables access to all Menu options.

-Zone 2 REX on Inside. Set to Yes IF the LCD Terminal is located Outside the Door, and Zone 2 of the Terminal is wired to a REX button on the Inside of the Door.

-Single Area operations. See LCD Terminals in the Module Programming section.

3.3 To enable Zone 2 of the Terminal (Txx:Z02) to be used as a REX button, in the Extra Options; [. . . . L N Z], set the "Z" option (Zone 2 REX button enable) to Yes.

4. Check/Program Access Group requirements. [MENU, 2, 4, 2]

4.1 IF your system has any Door Access Control requirements not covered by the default Access Groups, you may need to program additional **Access Groups**, and/or edit the default **Access Groups** as required. [MENU 2, 4, 2]
NOTE: The 3 Default Access Groups cover some basic Door access control requirements.

4.2 Program a name for any new Access Groups that you create.

4.3 IF it is necessary to restrict the valid period of the Access Group, or provide an alternate set of Access Group permissions for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the Access Group is Valid.

4.4 If a TimeZone is assigned, you may then specify an Alternate Access Group that will be used when the TimeZone specified in the previous step is Invalid.

4.5 Program the Entry Parameters required.

-Entry Mode. PIN only / Card only / PIN or Card / Card AND PIN

-Entry Anti-passback Mode. None / Soft / Hard

-Entry Options. [B L A D]

-REN Button operation.

-DeadLock function. Disables REN button if Outside Area is On.

-Auto Area Off. If the Inside Area is On, allows the Area to automatically be turned off when the User Enters. (Note: Area must be in the Area Off List, in the User's User Type)

-Dual User. Set to Yes IF two User Codes / Cards are required to allow entry.

4.6 Program the Exit Parameters required.

-Exit Mode. PIN only / Card only / PIN or Card / Card AND PIN

-Exit Anti-passback Mode. None / Soft / Hard

-Exit Options. [B L A D]

-REX Button operation.

-DeadLock function. Disables REX button if Inside Area is On.

-Auto Area Off. If the Outside Area is On, allows the Area to automatically be turned off when the User Exits. (Note: Area must be in the Area Off List, in the User's User Type)

-Dual User. Set to Yes IF two User Codes / Cards are required to allow exit.

5. Program the Doors [MENU, 7, 6]

5.1 Program a name for each Door.

5.2 Assign an "Inside" and/or "Outside" Area.

IF required for:

- Prevention of entry/exit into Areas that are turned On.
- Area Off and/or On control by access Readers.
- "Anti-passback" and "Wrong Area" processing.
- Tracking of User location.
- User counting in Areas.

5.3 Assign a suitable Access Group. This will determine the way in which the Door is controlled.

5.4 Define the Lock Auxiliary for the Door. Typically:

- Rxx:X01 for 1st Door on a Reader Module.
- Rxx:X04 for 2nd Door on a Reader Module.
- Txx:X01 for Door controlled by LCD Terminal.

5.5 Program the Lock Open Time. Default setting is 5 seconds.

5.6 Program the Maximum Door Open Time. Default setting is 30 seconds.

6. Assign the "Reader for User Programming". [MENU, 7, 5, 1]

6.1 Reader Module #001 is normally used for Testing Cards, Enrolling User's Cards & programming Backup Cards. IF another Reader Module is to be used for these purposes, program the Reader Module number in the "Reader for User Programming" option in the General System Options. [MENU, 7, 5, 1]

7. Program the Site Code/s. [MENU, 2, 5]

7.1 IF cards are to be entered into the system using the Site Code method, at least one Site Code will need to be programmed. The Site Code method simplifies card programming, allowing cards to be entered without the need to present the card at a Reader. Site Code method can be used with Inner Range Magnetic Swipe Cards, or Wiegand Cards/ID Tokens with a format in which the system supports Site Codes. e.g. 26 Bit Wiegand.

7.2 Program the Site Code in Hex or Decimal format.

7.3 Program a Card Offset if required.

7.4 Set "Site Code Present" to Yes.

8. Enrol any Backup Cards required. [MENU, 2, 6]

- 8.1 Up to 15 “Backup Cards” can be enrolled into the system. Backup card data is stored independently of the normal User Database, and is also stored on-board each Reader Module. If allowed via Reader Module programming, the Backup cards can continue to access Doors when the Reader Module is Offline.
- 8.2 Select the Backup Card number to program, then enrol each Backup Card when prompted by swiping/presenting it to the designated Reader.

9. Initialize the LAN

Whenever any programming is done that affects Module parameters, (especially Reader Modules, LCD Terminals and Mini Expanders) the LAN must be initialized to ensure that all changes take effect.

If all modules are connected and operational, and the system is complete, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

10. Program Access Alarm processing

When Access Control is implemented in a system additional System Inputs are available to be processed and/or monitored as required. e.g.

Reader Module System Inputs:

Cabinet Tamper, Low Volts, 1st/2nd Door Forced, 1st/2nd Door Open too Long, Illegal Card and LAN Comms.

LCD Terminal System Inputs:

Cabinet Tamper, Panic, Door Forced, Door Open too Long, Operator Duress, Too many tries and LAN Comms. These modules also have spare Zone Inputs that may have been used for additional PIRs, etc.

- 10.1 Identify the Access Control System Inputs that you wish to process and/or monitor in some way.
- 10.2 Return to “Alarm Processing”; Steps 1 (Program the Inputs), 2 (Check/Program Process Group Requirements), and 4 (Program the Areas) to add the System Inputs and any additional Zone Inputs on Reader Modules and LCD Terminals used for Access Control.

NOTE: You may choose to simply use the “Add System Inputs” default feature in Area Programming to add the Access Control System Inputs to an Area if this fulfils system monitoring requirements.

11. Automated Unlocking and/or Locking of Door/s

- 11.1 At Specific Times and/or for Specified period/s of Time. Program TimeZone/s. [MENU, 5, 2]
Refer to the “TimeZone Function” options under TimeZone programming in the Programmer’s Reference section:
 Door Unlock/Lock
 Door List Unlock/Lock
- 11.2 As a result of any event in the system that can control an Auxiliary.
 e.g. Keyswitch, Area On/Off, Alarm, etc.
 Program Calculated Auxiliaries. [MENU, 7, 5, 4]
Refer to the “Calculated Auxiliary Action” options under Calculated Auxiliary programming in the Programmer’s Reference section:
 Lock on +ON
 Unlock on +ON
 Lock on -OFF
 Unlock on -OFF

Door Programming Planning Sheet

DOOR NUMBER [Menu, 7, 6]	DOOR NAME (Up to 16 characters)	IN READER connected to Reader Module: [Menu, 7, 2, 4]	IN LCD Terminal [Menu, 7, 2, 1]	OUTSIDE AREA [Menu, 7, 1]	OUT READER connected to Reader Module: [Menu, 7, 2, 4]	OUT LCD Terminal [Menu, 7, 2, 1]	INSIDE AREA [Menu, 7, 1]
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:
D _ _ _ _		R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	A _ _ _ _ Name:

Basic Lift Programming

Lift control logic can be used to control Floor security for a number of Lift Cars. The security of up to 64 floors can be controlled for a maximum of 32 Lift Cars depending on interface method used, memory size, memory configuration and system traffic.

There are three methods of Lift Control available. All methods use a standard Reader Module normally mounted in each Lift Car for interface to the Reader. An optional LCD Terminal may also be installed in each Lift Car if Card+PIN is required for high security applications:

- 1) Floor Button Enable via simple Relay interface.
 - Expander Module/s are installed in the Lift motor room to provide Auxiliary Outputs to enable/disable each Floor selection button. (The Auxiliaries control Relays that provide the interface to the Lift Controller.)
 - When a User presents a valid card at the reader in the Lift Car, the system checks the User's "Lift Car List", "Floor List", etc. and enables all the floor buttons for the floor/s allowed. The buttons are enabled for a fixed period of time after the valid card has been presented.
 - If a User is allowed access to more than one floor, it is possible for them to select multiple floors during the button enable time. While the "User access/denied at Lift Car ###" details are recorded to Review, there is no means of recording the floor selected.
- 2) Floor Selection via Button Feedback. (V3 or later)
 - Universal Expander Module/s with Lift Interface board/s fitted are installed in the Lift motor room. These provide an Isolated Zone Input and Relay output that are effectively connected in series with each Floor selection button.

See "Lift Control with Button Feedback" in the Applications Programming Guide section.
- 3) High Level Interface via RS232 UART Port. (V3 or later)
 - A single RS232 connection is established between a UART Port fitted to the Control Module, and a High Level Elevator Management System (EMS). This allows security mask information to be transferred to the EMS without the need for Expander modules to provide Auxiliaries and Zones for Button Inputs. At present the OTIS protocol is supported with logging of lift buttons.
 - The High Level interface drastically reduces the amount of cabling and labour associated with the installation which can also lead to a greater level of reliability.

See "Lift Control with High Level Interface" in the Applications Programming Guide section.

Installation Notes:

- 1) CAUTION: If a Control Module is being upgraded from an earlier version firmware to Version 3 or later for Lift Control features, the Memory will need to be re-configured as new Memory structures have been added.
- 2) State and/or National Building regulations may govern the type of Lift control allowed on any particular site.
- 3) The Lift Controller may already allow for security control of the floor selection buttons. Check if this is the case, and if so, ascertain the type of interface required.
- 4) Check that the button voltage and switched current value are within the specifications of the interface that you propose to use. i.e. Relays, Lift Interface board, etc.
- 5) The Reader, along with a standard Reader Module and Power Supply, are normally installed in the Lift Car.
i.e. Allow one Reader Module per Lift Car.
The Reader Module is connected to the LAN via twisted pair cable, preferably shielded, up the Lift shaft. It is recommended that a LAN Isolator is installed in the Lift motor room to isolate the LAN cable in the Lift shaft from the rest of the LAN. One LAN Isolator will provide isolated LAN branches for two Lifts.
- 6) In some circumstances, the Reader Module can be installed in the Lift motor room, and provide the interface to Readers in two Lift Cars. The following points must be noted:
-The total length of trailing cable from the Reader to the Reader Module must be within the maximum cable length allowed as specified by the Reader manufacturer.
-The cable from the Reader to the Reader Module must be as specified by the Reader manufacturer. i.e. shielded data cable and not twisted pairs.
-Only one of the two Readers can be processed at a time. i.e. While Lift buttons are enabled in one Lift Car, the Reader in the other Lift Car will not accept cards.
- 7) When No Floor button feedback is required any Expander Module(s) with enough auxiliary outputs, in conjunction with the appropriate Relay interface board/s, can be used to control the necessary floor button enables.
- 8) Expander Type must be chosen to support the number of Floors required.
a) Mini Expander if up to 8 floors and no button feedback required.
b) Universal Expander configured as "E" Type if up to 16 floors.
c) Universal Expander configured as "B" Type if up to 32 floors.
-Where less than 32 Floors are controlled, the Floor Auxiliaries (and Button Sense Inputs if required) must all reside on the same Expander Module.
-Where more than 32 Floors are controlled, the Floor Auxiliaries (and Button Sense Inputs if required) must all reside on two sequentially numbered "B" Type Universal Expander Modules.
-Expander Modules will be installed with the Lift Control equipment in the Lift motor room.
-If Button feedback is used, set Universal Expanders to 40mS (fast) Zone De-bounce. (SW1 switch 2 to ON)

Terminology

The following terms are used in Lift control:

- Lift Car.** A Lift Car is the actual lift which is to be “controlled” . The system may be configured to control a number of individual lifts.
- Floor** A lift car is used to access floors. The number of floors may vary from lift car to lift car. At present the maximum number of floors is limited to 64 for any one lift car.
- Lift Car List** A particular User Type may be restricted as to what lift cars they are allowed to access at a particular time. A lift car list specifies what lift cars are allowed.
- Floor List** A particular User Type may be restricted as to what floors they are allowed to access at a particular time. A floor list specifies what floors are allowed. (Note that lift cars may also be restricted as to what floors they access via a floor list.)
- Floor Area** Each floor for each lift car may be assigned an area if desired. This can be used to further restrict floor access based on areas.
- Access Group** An Access Group is applied to a lift car and determines certain access options such as whether two cards are required.
- Reader Module** A reader module is a LAN module used to interface to actual readers (reader heads). A reader module can be situated anywhere on the 4 wire LAN and can control up to 2 doors or 1 lift car via up to 2 reader heads.
- Reader Head** A reader head is used to describe the actual reader connected to the reader module. Examples of reader heads are Swipe readers, Proximity readers, Smart Card Readers, etc. The reader module can support a number of reader head interfaces including magnetic swipe and wiegand formats.
- Floor Auxiliary** The system interfaces to the lift control system via auxiliaries connected via relays. The floor button is enabled when the auxiliary is off (relay off) and is disabled when the auxiliary is on (relay on).
- Floor Button** The system may read the state of a lift car button via a zone input. When the button is pushed the zone should seal. When the button is not pushed the zone should be in alarm. Electrical isolation should be provided via relays or opto-couplers. (As provided via the Lift Interface board)
- Free Access** A floor is in free access when the floor auxiliary has been turned off by a floor control function. When a floor is in free access the relevant floor auxiliary is left off, allowing the lift button to signal the lift at any time.
- Secure Floor** A floor is secure when the floor auxiliary has been turned on by a floor control function. When a floor is secure the relevant floor auxiliary is normally on disabling the floor button. The auxiliary may be turned off momentarily by a valid user.
- Floor Control Function** A floor can be placed in free access or secured by a floor control function. Floor control functions are available as time-zone and calculated auxiliary functions, via the control menu at an LCD Terminal and via the interpreter connected to a PC control program.
(Note that you can’t simply turn on/off the auxiliary as you can do with door locks !)
- 1st Floor** The first floor controlled by the system. This may be a basement Car park level or the “Ground” floor.
- EMS** Short for Elevator Management system. Can be connected to the Concept system via hard wired auxiliaries and zones or via a high level interface.

Note that at present stand alone terminals may not be used to control lift access, although an LCD terminal may be used in conjunction with a reader for the entry of a pin with card.

Operation with No button feedback.

The sequence below shows the logic that the system applies in determining what floor buttons to enable for a particular lift car when a card is presented at a reader.

- Process card according to reader format & mode.
- Check card exists in system. (Check Issue # if required)
- Check if card has an expiry date that has expired.
- Check if card is cancelled (User type = 0).
- Adjust user type by time-zone if required.
- Check if time-zone has cancelled the user type.
- Turn on valid code Aux for this user type if programmed.
- Ensure that a lift car has been assigned to this reader.
- Check that lift car access group is not zero.
- Adjust access group by time-zone if required.
- Check that lift car access group not cancelled by a time-zone.
- Check that a lift car list exists for this user type.
- Adjust lift car list by time-zone if required.
- Check that lift car list not cancelled by a time-zone.
- If need dual user & no dual code over-ride & allowed to provide 1st user, then go get 2nd user.
- If need pin then wait for this users pin to be entered.
- Cancel user type if required (“Card Cancel” option)
- Check that user type floor list is not zero.
- Adjust user type floor list by time-zone if required
- Set up required floor button list based on what floors are in the user type floor list. If time-zone disabled then no buttons.
- If lift car floor list is defined then adjust for time-zone if required and remove any buttons from the button list for any floors not in the lift car floor list. If time-zone disabled then no buttons.
- If a user type area off list is defined (non zero) then adjust area list for time-zone if required and for every floor in this lift car that has an area assigned to it that is not in the area off list remove the button from the button list. If the floor has no assigned area then ignore.
- Check if got no buttons enabled and if so exit with review message.
- Check that lift car has Number of floors not set to zero.
- Check that 1st floor aux is legal and that all button enable auxes are also legal.
- Save review messages “Lift Access” and “Buttons On”
- Turn off relevant auxes based on the button list for the button on time. (If user type has (d)isabled flag set then used disabled button time.
- At end of button time set all auxes back to their secure/free access
- Save “free access” review message.

Operation with Button feedback.

See “Lift Control with Button Feedback” in the Applications Programming Guide section.

Programming

1. Note Lift details.

- 1.1 Plan your Lift programming requirements. For each Lift Car note the:
- Lift Car number to be used. (LC002, LC002, etc.)
 - Reader Module being used. (R001, R002, etc.)
 - Reader Module Port that the Reader for each Lift Car is connected to. (Rdr 1 or Rdr 2)
 - Any LCD Terminal/s used for Card + PIN access in Lift Cars.
 - Any restrictions on floors accessed by particular Lift Cars.
 - Any Areas to be assigned to floors. IF required for prevention of entry into Areas that are turned On.
 - The Expander Module Auxiliaries to be used for floor enable for each Lift Car.
- Note: Where a smaller number of floors are used, the same Expander can be used for more than one Lift Car, although this will compromise redundancy.

The table at the end of this section may be copied and used to record this information before programming is commenced.

2. Program the Reader Module/s [MENU 7, 2, 4]

Program the attributes required for each Reader Module used for Lift Control.

- 2.1 Adjust the Reader Module “Poll Time” and “LAN Priority” IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.
- 2.2 Check that the Reader Module Purpose is set to “Lift Control”.
- 2.3 Assign the 1st Lift to be controlled by this Reader Module.
- 2.4 IF the Reader Module is to be used in “2 Door/Lift” Mode;
Assign the 2nd Lift to be controlled by this Reader Module. (NOT RECOMMENDED)
- 2.5 Program the Reader Module Options. [C E X F W N T 2]
Comms (LAN) Fail Options:
Not relevant to Lift Control.
Other Options:
-No Valid/Invalid LED control. Set to Yes IF the LED Auxiliaries need to be used for other purposes.
-2 Door/Lift Mode. Set to Yes IF Reader Module is to be used to control 2 Lift Cars.
- 2.6 Program the parameters for the first Reader (Rdr 1) connected to the Reader Module.
- Reader location. Set to Outside (the Reader is used to Enter).
 - Reader Format. Choose the correct Card data format.
 - Reader Mode. Credit Card/Direct Entry/Site Code/Any Card
 - Keypad for PIN code Entry. IF Lift requires Card + PIN for floor access.
 - Module for PINs. IF “LCD Terminal” is selected as the Keypad for PIN in the previous option, program the module number (Txxx) of the LCD Terminal to be used.
- 2.7 Program the parameters for second Reader (Rdr 2) connected to the Reader Module.
Note: In 2 Door/Lift Mode, Rdr 1 controls the 1st Lift and Rdr 2 controls the 2nd Lift.
Options are the same as those for the first Reader.

3. Initialize the LAN

Whenever any programming is done that effects Module parameters, (especially Reader Modules, LCD Terminals and Mini Expanders) the LAN must be initialized to ensure that all changes take effect.

If all modules are connected and operational, and the system is complete, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

4. Program Access Groups. [MENU, 2, 4, 2]

- 4.1 It is recommended that one or more new Access Groups are programmed to define Lift Control requirements.
- 4.2 Program a name for any new Access Groups that you create.
- 4.3 IF it is necessary to restrict the valid period of the Access Group, or provide an alternate set of Access Group permissions for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the Access Group is Valid.
e.g. If “Card Only” operation is adequate during the day, but “Card+PIN” is required after hours.
- 4.4 If a TimeZone is assigned, you may then specify an Alternate Access Group that will be used when the TimeZone specified in the previous step is Invalid.
- 4.5 Program the Entry Parameters required.
 - Entry Mode. Card only / Card AND PIN. (“PIN only” & “PIN or Card” are not relevant for Lift Control)
 - Entry Options. [B L A D]
 - Dual User. Set to Yes IF two User Codes / Cards are required to allow entry.
- 4.6 Program the Exit Parameters required.
 - Exit Mode. Card only / Card AND PIN. (“PIN only” & “PIN or Card” are not relevant for Lift Control)
 - Exit Options. [B L A D]
 - Dual User. Set to Yes IF two User Codes / Cards are required to allow exit.

5. Program Floor Lists [MENU 2, 3, 4]

IF any Lift Cars are to be restricted to servicing only specific floors, Floor List/s must be programmed to define the floors allowed for each Lift Car.

- 5.1 Determine the Floor/s that different Lift Cars will be restricted to.
From this information you can program the **Floor Lists** required [MENU 2, 3, 4].
- 5.2 IF it is necessary to restrict the valid period of the Floor List, or provide an alternate List of Floors for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the Floor List is Valid.
- 5.3 If a TimeZone is assigned, you may then specify an Alternate Floor List that will be used when the TimeZone specified in the previous step is Invalid.
- 5.4 Assign the Floor/s to each Floor List. A Floor List can support any number of Floors up to the maximum number of Floors allowed in the Memory configuration.

6. Program the Lifts [MENU, 7, 6]

Each Lift Car to be controlled is individually programmed.

- 6.1 Select the Lift Car number to program.
- 6.2 Assign a suitable "Access Group". This will determine the way that the Lift is controlled.
- 6.3 IF the Lift Car is to be restricted to servicing only specific floors, assign a "Floor List".
- 6.4 Define the total "Number of Floors" to be controlled in this Lift Car.
- 6.5 Define the 1st Floor Auxiliary that will be used to control Floors for this Lift Car.
 Floor button enable Auxiliaries start at this Auxiliary and run in sequence to the number of floors specified in the previous step.
 If the required number of Auxiliaries overruns the first module, the sequence automatically rolls over to Auxiliary 1 of the next module of the same type. (Only recommended if control of more than 32 floors is required.)
- 6.6 Assign the "Valid Auxiliary" for the Lift if required.
 This Auxiliary is turned On for the "button time" .
 The Auxiliary specified may be a Reader LED control Auxiliary (e.g. Rxx:X02)
- 6.7 Ensure the "Button Area" is set to "None". This is mandatory when button feedback is not used.
- 6.8 Program the "Button Time". This is the maximum time the floor buttons will remain active for a normal User. Typically set to about 5 seconds.
- 6.9 Program the "Disabled Time". This is the maximum time the floor buttons will remain active for a "disabled" User. i.e. User Type with the "Disabled" option set to Yes.
 Note: Disabled time does not operate with High Level Interface.
- 6.10 Program the number of "Unused Floors". If a Lift Car starts at any Floor other than the 1st Floor that is controlled by the system, program the number of floors to be skipped. e.g. If the Lift Car starts at Floor15, then this option should be set to 14.
 This allows the unused Auxiliaries and Zones associated with this Lift Car to be used for other purposes.
- 6.11 Assign the "Floor Areas" if required. Normally left at "None" unless User access is to be restricted based on the Area status and the User Type's Area Off permissions.

7. Program the General System Options. [MENU, 7, 5, 1]

- 7.1 "Reader for User Programming". Reader Module #001 is normally used for Testing Cards, Enrolling User's Cards & programming Backup Cards.
IF another Reader Module is to be used for these purposes, program the Reader Module number in the "Reader for User Programming" option in the General System Options.

e.g. Reader Module #001 may be used in a Lift Car making it inconvenient to use for testing and enrolling Cards etc.

Note: If Door Access Control is already programmed in the system, this option may already be programmed.

8. Program the Site Code/s. [MENU, 2, 5]

- 8.1 IF cards are to be entered into the system using the Site Code method, at least one Site Code will need to be programmed. The Site Code method simplifies card programming, allowing cards to be entered without the need to present the card at a Reader. Site Code method can be used with Inner Range Magnetic Swipe Cards, or Wiegand Cards/ID Tokens with a format in which the system supports Site Codes. e.g. 26 Bit Wiegand.

If Door Access Control is already programmed in the system, the Site Code/s may already be programmed.

- 8.2 Program the Site Code in Hex or Decimal format.
- 8.3 Program a Card Offset if required.
- 8.4 Set "Site Code Present" to Yes.

9. Program Access Alarm processing

When Lift Access Control is implemented in a system additional System Inputs are available to be processed and/or monitored as required. e.g.

Relevant Reader Module System Inputs:

Cabinet Tamper, Low Volts, Illegal Card and LAN Comms.

Relevant LCD Terminal System Inputs:

Cabinet Tamper, Panic, Operator Duress, Too many tries and LAN Comms.

- 9.1 Identify the Lift Access Control System Inputs that you wish to process and/or monitor in some way.
- 9.2 Return to "Alarm Processing"; Steps 1 (Program the Inputs), 2 (Check/Program Process Group Requirements), and 4 (Program the Areas) to add the System Inputs and any additional Zone Inputs on Reader Modules and LCD Terminals used for Access Control.

NOTE: You may choose to simply use the "Add System Inputs" default feature in Area Programming to add the Access Control System Inputs to an Area if this fulfils system monitoring requirements.

10. Securing the Floors

When Lift Access Control operation is being commissioned the required Floors must be placed on security by a Floor Control operation. This can be done via "Lift Control" in the Control Menu [MENU, 9, 4]

- 10.1 Select "Lift Control" in the Control Menu. [MENU, 9, 4]
- 10.2 Enter the Lift Car number to control. ("00" = All Lifts)
- 10.3 Enter the Floor number to control. ("00" = All Floors)
- 10.4 Press the "7" (S) key to Secure the Floor/s. (The "1" (A) key is used to Access Floor/s)

11. Automated Free Access and Securing of Floor/s

It may be necessary to have a facility to provide automatic “Free Access” and/or “Securing” of Floors.

This can be a useful feature in sites where free access is required on specific floors during specified times and/or under certain circumstances.

IMPORTANT NOTE:

When powered up, the system will normally turn Off all Floor Auxiliaries, thereby setting all floors to free access. This means that in the rare event of the Control Module being Reset (e.g. Due to having power and battery removed then restored), all floors for all Lift Cars will be placed in free access.

To re-secure the required floors, the relevant Floor Auxiliaries must be turned On by a Floor Control operation.

This can be done:

- Manually via the Control Menu (MENU, 9, 4) as described in Step 13. (Requires a User operation)
- Automatically via a Calculated Auxiliary “Secure on +ON” or “Secure on -OFF” action triggered by an Auxiliary that is always turned On after a system Reset. To obtain an Auxiliary that turns On after a System Reset, assign a “Close Auxiliary” to an Area that is always On 24Hrs. This could be one of the Button Areas if Button feedback is used in the system, or a “System” Area. (Any Area that was On will automatically be turned On again after a Control Module is Reset)

- 11.1 At Specific Times and/or for Specified period/s of Time. Program TimeZone/s. [MENU, 5, 2]
Refer to the “TimeZone Function” options under TimeZone programming in the Programmer’s Reference section:
- Lift Car & Floor*
 - Lift Car & Floor List*
 - Lift Car List and Floor*
 - Lift Car List & Floor List*

- 11.2 As a result of any event in the system that can control an Auxiliary.
e.g. Keyswitch, Area On/Off, Alarm, etc.
Program Calculated Auxiliaries. [MENU, 7, 5, 4]
Refer to the “Calculated Auxiliary Action” options under Calculated Auxiliary programming in the Programmer’s Reference section:
- Secure on +ON*
 - Free on +ON*
 - Secure on -OFF*
 - Free on -OFF*

Lift Programming Planning Sheet - Basic Lift Control.

LIFT NUMBER	DESCRIPTION	ACCESS GROUP [Menu, 7, 1]	READER connected to Reader Module: [Menu, 7, 2, 4]	LCD Terminal for PINs [Menu, 7, 2, 1]	FLOOR LIST [Menu, 2, 3, 4]	NUMBER OF FLOORS (max 64)	1st FLOOR AUXILIARY
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		____ : X ____

User Programming

1. Menu Groups. [MENU 2, 4, 1]

- 1.1 IF your system has any special User Menu Access requirements or Operational requirements not covered by the default Menu Groups (MG001 to MG004), program the extra **Menu Groups** required, or modify the default Menu Groups to suit your system requirements. [MENU 2, 4, 1]
- 1.2 Program a name for any new Menu Groups that you create.
- 1.3 Program the appropriate functional options allowed for each Menu Group. [R I D C S A M T]
 - Remote Access. Set to Yes IF User is allowed remote access via Upload/Download software.
 - Isolate on Exit. Set to Yes IF User is allowed to Isolate Zones on exit if they are un-sealed.
 - Area Defer On. Set to Yes IF User will start Area Defer On Timer running on “Defer” Areas.
 - Cancel Holdup. Set to Yes IF User is allowed to cancel a Holdup alarm before it reports.
 - Sirens Off. Set to Yes IF User can turn Off Sirens that are operating in any Area when they logon to a Terminal.
 - Acknowledge Messages. Set to Yes IF User can acknowledge messages from any Area when they logon to a Terminal.
 - Multiple Areas. Set to Yes IF User can turn multiple Areas On/Off via an Area List.
 - Tamper On/Off. Set to Yes IF User can turn Off the 24Hour (or Tamper) part of any Area in their “Area Off” List.
- 1.4 Assign the Main Menu options that the Menu Group will allow access to. [R A I T t . S C]
Review & Information, Access, Isolate, Test, times, Security and Control.
- 1.5 Assign the Sub Menu options that the Menu Group will allow access to. [U T L G Z R A]
User Codes, User Types, Lists, Groups, TimeZones, Review and Adjust Counters.

2. Area Lists. [MENU 2, 3, 1]

- 2.1 Determine the Area/s that different types of Users will be allowed to turn ON and OFF.
From this information you can program the **Area Lists** required [MENU 2, 3, 1], remembering that different Area ON and Area OFF Lists may be assigned to each “User Type” if required.
NOTE: Area List/s may also be required to:
 - Restrict the Areas reported in a particular Comms Task.
 - Restrict the Areas controlled from an LCD Terminal.
- 2.2 Program a name for each Area List.
- 2.3 Assign the Area/s to each Area List. An Area List can support any number of Areas up to the maximum number of Areas allowed in the Memory configuration.

3. Door Lists. [MENU 2, 3, 2]

- 3.1 IF the system incorporates Access controlled Doors, determine the Door/s that different types of Users will be allowed to access.
From this information you can program the **Door Lists** required [MENU 2, 3, 2].
- 3.2 Program a name for each Door List.
- 3.3 Assign the Door/s to each Door List. A Door List can support any number of Doors up to the maximum number of Doors allowed in the Memory configuration.

4. Floor Lists [MENU 2, 3, 4] and Lift Car Lists. [MENU 2, 3, 5]

- 4.1 IF the system incorporates Access controlled Lifts, determine the Floor/s that different types of Users will be allowed to access.
From this information you can program the **Floor Lists** required [MENU 2, 3, 4].
- 4.2 Assign the Floor/s to each Floor List. A Floor List can support any number of Floors up to the maximum number of Floors allowed in the Memory configuration.
- 4.3 Determine the Lift Car/s that different types of Users will be allowed to access.
From this information you can program the **Lift Car Lists** required [MENU 2, 3, 5].
- 4.4 Assign the Lift/s to each Lift Car List. A Lift Car List can support any number of Lifts up to the maximum number of Lifts allowed in the Memory configuration.

5. User Types. [MENU 2, 2]

- 5.1 Categorize all the Users in the system into a number of logical (and practical) “Types” according to the operations that they may perform, and the Area/s they are allowed to control. E.g. System Admin, Supervisor, Factory Staff, Maintenance, Guard, etc.
From this information program each of the **User Types** required. [MENU 2, 2]
- 5.2 Program a name for each User Type.
- 5.3 IF it is necessary to restrict the valid period of the User Type, or provide an alternate set of User Type permissions for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the User Type is Valid.
- 5.4 If a TimeZone is assigned, you may then specify an Alternate User Type that will be used when the TimeZone specified in the previous step is Invalid.
- 5.5 Assign appropriate Area Lists to the “Area On List” and “Area Off List” options.
This will determine which Area/s the User Type can control.
- 5.6 Assign a suitable Menu Group. This will determine the Menu options allowed and some of the Operations that the User Type is allowed to perform.
- 5.7 IF the system incorporates Access controlled Doors, assign an appropriate Door List to the User Type.
This will determine which Door/s the User Type can access.
- 5.8 IF the system incorporates Access controlled Lifts, assign an appropriate Floor List and Lift Car List to the User Type. This will determine which Floor/s the User Type can access via which Lift Car/s.

- 5.9 Program any of the User Type Options required for each User Type in the system. [d D U A P C]
The User options are:
- disabled User. Set to Yes **IF** the User Type requires longer Door Unlock and Lift Button selection times. (V3 or later)
 - Dual Code Provider. Set to Yes **IF** this User Type is allowed to present the first PIN Code/Card at any Door/s where Dual User access is required.
 - Dual User Override. Set to Yes **IF** the request for Dual User Codes will be overridden for this User Type.
 - Override Anti-Passback. Set to Yes **IF** Anti-passback rules will be overridden for this User Type.
 - Cancel on PIN. Set to Yes **IF** the User Type is to be assigned to single-use PIN code Users. When a User with this option set to Yes in their User Type is granted PIN code access through a Door, the User will be cancelled by setting their User Type back to "None".
 - Cancel on Card. Set to Yes **IF** the User Type is to be assigned to single-use Card Users. When a User with this option set to Yes in their User Type is granted Card access through a Door, the User will be cancelled by setting their User Type back to "None".

6. Users. [MENU 2, 1]

- 6.1 **User Codes** programming may now be done utilizing the User Types just programmed. This may only be necessary to provide the client with a Master User Code that will allow them to program in the rest of the Users themselves.
- 6.2 Program a name for each User.
- 6.3 Assign an appropriate User Type .
- 6.4 **IF** the User requires a PIN code to perform any operations, enter in a unique PIN code of 1 to 8 digits for the User. A PIN code length of at least 4 digits is recommended.
- 6.5 **IF** the User requires a Card (or other type of ID token) to perform any operations, program the Card Type (Credit Card, Site Code or Direct Entry) and the card ID (Account number, Card number, or Raw Card Data depending on Card Type chosen).
- 6.6 **IF** the User's PIN code / Card is only to be valid up to a specific time and/or date, program the Expiry time and/or date.
- 6.7 Program any of the User Options required for each User in the system. [N D L E G]
The User options are:
- No message acknowledge. Set to Yes **IF** the User is not allowed to acknowledge any alarm messages.
 - Duress Code. Set to Yes **IF** this User Code is to be used as a system Duress PIN code.
CAUTION. If this option is set to Yes, DO NOT use any words in the User name (e.g. Duress, Holdup, etc.) that indicate that a Duress code is being used, as the name will be displayed in the greeting when the User logs on to the Terminal!
 - Area List default. Set to Yes **IF** the Area List selection screen (rather than the Area selection screen) is to be displayed when the User logs on to a Terminal.
 - Extra Area Off. Access Control option.
 - No Greeting. Set to Yes **IF** the logon greeting (e.g. Good morning Jack Frost) is not to be displayed for this User.
- 6.8 An "Extra Area" may be assigned to the User:
- IF the User is required to have On/Off control of just one Area.
(No Area List would then be required in their User Type.
 - IF the User is required to have On/Off control of one additional Area as well as the Area/s defined via their User Type Area List.

Central Monitoring Station Communications

When the system is required to communicate to a Central Monitoring Station, a number of different Comms formats are available. The most suitable format will be determined by the level of security required and the format/s capable of being monitored by the Central Station.

- 1) **Dailer formats.**
Uses standard PSTN Telephone Line via on-board Dialer modem. (No additional hardware required).
Follow Steps 1, 2, 3, 6 (If Backup Comms Task is utilized), 7 (If Time report is required), and 8 (If Dialer Line testing is required)
- 2) **Securitel.** (Australia only)
Uses standard PSTN Telephone Line where Securitel service is available. A 1, 2 or 4 Port UART board must be fitted to the Control Module and connected to a Securitel Interface Unit (3rd Party item) using the Securitel / SpreadNet® Interface Cable. (P/No: 993035)
Follow Steps 4 & 5, and 1 & 6 (If Dialer Backup Comms Task is utilized).
- 3) **Direct Line formats.**
Uses a private leased line to the Central Monitoring Station via on-board modem.
Refer to Programming Reference section for programming details.

1. Program Telephone Numbers. [MENU 7, 3, 2]

IF the system is communicating to a Central Monitoring Station via the Main Comms Task or Backup Comms Task in any of the Dialer formats, program the required “Telephone Number/s”.

You may need to program one or more Telephone numbers.

- e.g. -A PABX Access code **IF** the system needs to access an external line via a PABX connection.
-The primary Central Station Telephone number.
-Secondary Central Station Telephone number/s if required. (Up to 3 alternate numbers per Comms Task)

- 1.1 Select a Telephone number (TNxxx) to program.
- 1.2 Program a name for each Telephone number that is entered.
- 1.3 Enter the actual Telephone number. (**IF** “*” &/or “#” characters need to be used in the phone number via the “0” key, press the ON key for alpha-numeric mode before entering the number)

2. Program the Main Dialer Comms Task options. [MENU 7, 3, 1]

IF the system is communicating to a Central Monitoring Station in any of the Dialer formats, program the required Dialer Comms Task.

- 2.1 Select a Comms Task (CTxxx) to program.
Note that Comms Task CT001 is pre-programmed by the system defaults to PCDirect. It is recommended that this Comms Task is not changed. Select Comms Task CT002 or higher for Central Station reporting.
- 2.2 Select the Dialer Comms format required.

IRfast.
Contact ID.
4+2 Pulse.
- 2.3 Program the Dialer Comms Task Options. If programming from an LCD Terminal, with the Comms Task set to “Idle”, press <HELP>, 9 to program the options.
- 2.4 Enter the 4 digit “Client Code” supplied by the Central Monitoring Station.
- 2.5 **IF** the system needs to access an external line via a PABX connection, assign the “PABX Telephone Number”.
- 2.6 Assign the “1st Telephone Number”. This is the primary telephone number used to dial the Central Station.

2.7 Assign any of the “2nd, 3rd and 4th Telephone Numbers” if required. These are alternate Telephone numbers that may be used to dial the same Central Monitoring Station if the 1st or subsequent number is busy or faulty.

2.8 Program any of the Dialing options required. [P p D F T M . 6]
The options are:

-Pulse Dial Main Telephone numbers. Set to Yes IF the system is required to use Pulse (Decadic) dialing for the main Telephone numbers. i.e. The 1st, 2nd, 3rd and 4th Telephone numbers.

-pulse Dial PABX Telephone numbers. Set to Yes IF the system is required to use Pulse (Decadic) dialing for the PABX number.

-Dumb Dial. Not normally required. *Refer to Programming Reference section for details.*

-Force 300 Baud. IF IR fast format is used, and communication difficulties are experienced at the default 1200 Baud comms speed, this option may be set to Yes to force comms to 300 Baud. (ONLY relevant to IRfast)

-Test Mode. Special option. Not normally required. *Refer to Programming Reference section for details.*

-Maximum Count. IF set to Yes, allows the maximum call time in Contact ID to be based on valid acknowledgements received, rather than on time. Only used if problems are experienced with the Central Station Receiver’s buffer overflowing when the system sends large amounts of data. e.g. During a site commissioning. Not normally required. *Refer to Programming Reference section for details.*

-60 second Re-dial. Not normally required. *Refer to Programming Reference section for details.*

2.9 Program any of the Reporting options required. [M L G P N . . .]
The options are:

-Multiple Area Client Codes. Set to Yes IF separate Client Codes are to be reported for some or all of the different Areas in the system. If utilized, the Client Code for each Area must be programmed in each Area database where the option is required. If set to No, only the Client Code programmed in step 2.4 will be used.

-Look Ahead. Set to Yes if new Alarms are to be reported with priority over multi-breaks on a Zone that has already been reported. *Refer to Programming Reference section for details.*

-General Open/Close Reporting. Set to Yes IF the system is only required to Report “First Area to Open” and “Last Area to Close”. If unique Open/Close reporting is also required on some Areas, another Comms Task may be programmed to report those Areas. *Refer to Programming Reference section for details.*

-Prevent Restores. Not normally required. *Refer to Programming Reference section for details.*

-No “Area Still Open” or “Area 24Hr (Tamper) Off” reports. Set to Yes if Comms format or Central Station Automation system does not support these Area reports. *Refer to Programming Reference section for details.*

2.10 IF the Comms Task is to be restricted to reporting on a limited number of Areas, assign an Area List to the “Area List Filter” option. (IF utilized, you may have to program an Area List first)

2.11 IF only certain types of messages are to be reported by this Comms Task, program the “Extra Filter” options. [E O A]

-Enable the Extra Filter options. Set to Yes IF filtering is required.

-Open/Closes. Set to Yes IF Area Openings and Closing are to be sent.

-Alarms/Tampers/Isolates. Set to Yes IF Alarms, Tampers and Isolates are to be sent.

2.12 Select the appropriate “Contact ID Map” to be used for this Comms Task.

This option applies IF Contact ID format is used, or IF Contact ID information is sent with IR fast format.

As there are a limited number of points that can be reported via the Contact ID format, a Map can be chosen in consultation with the Central Monitoring Station, that best suits the system configuration.

Refer to Programming Reference and Tables sections for details.

3. Program the Main Dialer Comms Task Special options. [MENU 7, 3, 1]

- 3.1 Program the Dialer Comms Task Special Options. If programming from an LCD Terminal, from the main Comms Task options "Client Code" screen, press <HELP>, 9, to program the Comms Task Special Options.
This is only required IF:
- The default number of Dial attempts or Backup attempts needs to be changed.
 - A "Backup Comms Task" needs to be specified. (Allows the system to report to an alternate Central Monitoring Station if all attempts to communicate to the main Central Monitoring Station are unsuccessful.)
 - Auxiliaries are required to indicate "Seize" and "Pass" states.
 - Any default timing parameters need to be changed.
 - Any special options are required when IRfast Format is used.
- 3.2 Maximum Attempts. Default is 8 attempts. Program only if a different number of attempts is required.
- 3.3 Backup Attempts. Default is 4 attempts. Program only if a different number of attempts is required.
- 3.4 Backup Comms Task. IF a Backup Comms Task is required, specify the Comms Task that will be triggered if this Comms Task fails to communicate with the Central Station after the maximum number of attempts.
- 3.5 Seize Auxiliary and Pass Auxiliary. Assign an Auxiliary ID if required.
- 3.6 Timing Parameters.
PABX Dial Wait. Default is 3 seconds.
Main Dial Wait. Default is 3 seconds.
Handshake Wait. Default is 30 seconds.
Maximum Online Time. Default is 10 minutes.
Line Test Count. Should be left at "000" unless advised otherwise.
CAUTION: These parameters normally only changed if advised by Distributor Technical Support.
Refer to Programming Reference section for details before attempting to edit.
- 3.7 IF IRfast format is used, program any of the IRfast "Special Options" required. [R C T . . L I U]
These options should only be programmed if instructed to do so by the Central Monitoring Station.
- Review Text. Set to Yes if Review text is to be sent with each event reported.
 - Contact ID string. Set to Yes if equivalent Contact ID String is to be sent with each event reported.
 - Send Time/Date. Set to Yes if a text string of the Time/date the event was recorded is to be sent with each event reported.
 - Link to PC. If set to Yes, causes an FE100 Receiver to hang on to the line for a short period to allow the Automation system PC to send commands back to the panel.
 - Panel Information. Set to Yes if miscellaneous panel information such as serial number, firmware version and security option settings is to be sent at the end of each report.
 - Update Panel. If set to Yes, causes an FE100 Receiver to update the panels Time and Date before hanging up.
- 3.8 IF IRfast format is used, program any of the IRfast "Remote Control Options" required. [I U . . . D X A]
These options should only be programmed if instructed to do so by the Central Monitoring Station.
- Installer Status. Set to Yes if Central Station is to have Installer Status for the purpose of Remote Control.
 - User Status. Set to Yes if Central Station is to have normal User Status for the purpose of Remote Control.
 - Door Control. Set to Yes if remote control of Doors is allowed where the facility exists.
 - Auxiliary Control. Set to Yes if remote control of Auxiliaries is allowed where the facility exists.
 - Area Control. Set to Yes if remote control of Areas is allowed where the facility exists.

4. Program the Securitel Comms Task options. [MENU 7, 3, 1]

IF the system is communicating to a Central Monitoring Station in the Securitel format, program a Securitel Comms Task.

- 4.1 Select a Comms Task (CTxxx) to program.
Note that Comms Task CT001 is pre-programmed by the system defaults to PCDirect. It is recommended that this Comms Task is not changed. Select Comms Task CT002 or higher for Central Station reporting.
- 4.2 Select the "Securitel" Comms format.
- 4.3 Program the Securitel Comms Task Options. If programming from an LCD Terminal, with the Comms Task set to "Idle", press <HELP>, 9 to program the options.
- 4.4 Enter the 4 digit "Hard ID" supplied by the Central Monitoring Station.
- 4.5 Define the UART "Port to Use" that the Securitel Interface is connected to. Must be Port 1 to 4. Port 0 not allowed.
- 4.6 Program the Baud rate for communications between the UART Port and the Securitel Interface. Normally 9600.
- 4.7 Program any of the Reporting options required. [M L G P N . . .]
The options are:
 - Multiple Area Client Codes. Set to No. Not used is this format.
 - Look Ahead. Set to Yes if new Alarms are to be reported with priority over multi-breaks on a Zone that has already been reported. *Refer to Programming Reference section for details.*
 - General Open/Close Reporting. Set to Yes IF the system is only required to Report "First Area to Open" and "Last Area to Close". If unique Open/Close reporting is also required on some Areas, another Comms Task may be programmed to report those Areas. *Refer to Programming Reference section for details.*
 - Prevent Restores. Not normally required. *Refer to Programming Reference section for details.*
 - No "Area Still Open" or "Area 24Hr (Tamper) Off" reports. Set to No. Not used is this format.
- 4.8 IF the Comms Task is to be restricted to reporting on a limited number of Areas, assign an Area List to the "Area List Filter" option. (IF utilized, you may have to program an Area List first)
- 4.9 IF only certain types of messages are to be reported by this Comms Task, program the "Extra Filter" options.
 - Enable the Extra Filter options. Set to Yes IF filtering is required.
 - Open/Closes. Set to Yes IF Area Openings and Closing are to be sent.
 - Alarms/Tampers/Isolates. Set to Yes IF Alarms, Tampers and Isolates are to be sent.

5. Program the Securitel Comms Task Special options. [MENU 7, 3, 1]

- 5.1 Program the Securitel Comms Task Special Options. If programming from an LCD Terminal, from the main Comms Task options "Hard ID" screen, press <HELP>, 9, to program the Comms Task Special Options.
This is only required IF:
 - Any default timing parameters need to be changed.
 - A "Command back" Auxiliary output needs to be specified.
 - A "Backup Comms Task" needs to be specified. (Allows the system to report to an alternate Central Monitoring Station via a Dialer format if all attempts to communicate to the main Central Monitoring Station are unsuccessful.)
- 5.2 Timing Parameters.
Poll Wait. Default is 10 seconds.
CAUTION: This parameter normally only changed if advised by Distributor Technical Support.
Refer to Programming Reference section for details before attempting to edit.

- 5.3 Command Back Auxiliary. Assign an Auxiliary ID if required.
- 5.4 Backup Comms Task. IF a Backup Comms Task is required, specify the Comms Task that will be triggered if this Comms Task fails to communicate with the Central Station.

6. Program the Backup Dialer Comms Task. [MENU 7, 3, 1]

IF a Backup Comms Task was specified in Dialer Special Options, program the Backup Comms Task.

- 6.1 Select a new Comms Task (CTxxx) to program.
- 6.2 Select the Backup Comms format required.
 - IRfast Backup.
 - Contact ID (CID) Backup.
- 6.3 Program the Backup Dialer Comms Task Options as per Step 2.

7. Program Time Report/s to the Central Monitoring Station.

IF a periodic Test report is required to be sent to the Central Monitoring Station, program the “Time Report” facility.

- 7.1 Program a TimeZone. [MENU 5, 2]
Select the TimeZone and program an appropriate name. e.g. “Time Report”
- 7.2 Program the first TimeZone period to define when the Time Report will be sent.
- 7.3 Program the Valid Days of the week for the first Period.
i.e. Days when the function is required to operate.
- 7.4 IF the TimeZone requirements are more complex, program the second (and any subsequent) “TimeZone period” and “Valid Days” to define when the function will be triggered.
e.g. If the Time Report requirements differ from Day to Day.
- 7.5 Assign the Holiday Types to be obeyed. (If necessary)

e.g. Time Report to be sent at 3 AM every night.

1st Period: 03:00-to-03:02

Days: SMTWTFSH all set to Yes.

Note: If the Time Report is required to be sent twice a day, two TimeZone periods can be programmed, using the Start Times of the two periods to define the two report times.

- 7.6 Set TimeZone Function to “Trigger Time Report”.
- 7.7 Set Control Options for Trigger Time Report. [O F o f]
This determines how the Time Report System Input will be triggered. (C01:S18)
-O. Time Report System Input **On** (Alarm edge) when TimeZone goes Valid.
-F. Not used for this function.
-o. Not used for this function.
-f. Not used for this function.

- 7.8 Assign the Time Report System Input (C01:S18) to an Area. [MENU, 7, 1]
Assign the Input to a System Area that is always On with an appropriate Process Group. e.g. "System Silent".

NOTE: If the "Add System Inputs" Area default procedure is used, and the "S" (System Silent) option set to Yes, this Input (C01:S18) is assigned to the Area with the "System Silent" Process Group.

See "Program the Areas" (Step 4) in "Alarm Processing" for details.

Note that the default "System Silent" Process Group will generate an LCD Terminal message. You may choose to program a similar Process Group for this Input, but with all "Terminal message Types" set to No.

[MENU, 2, 4, 3]

Alternatively you may choose to set "Terminal message Types" all to No in the "System Silent" Process Group, but this will effect other System Inputs and may not be appropriate in all applications.

8. Program Dialer Line Testing.

IF regular testing of the Dialer Line is required, program the Line Test Facility. This allows the Control Module to test the line frequently to detect a fault or tamper condition without having to dial.

It is recommended that this feature is utilized if the On-board modem is connected to a telephone line for any purpose. i.e. Alarm reporting, remote control and/or Upload/Download.

- 8.1 Select a new Comms Task (CTxxx) to program;
OR If a Comms Task is already programmed for "Answer Call", select this Comms Task.
- 8.2 Select the "Answer Call" Comms format if a new Comms Task being created.
- 8.3 Program the Answer Call Comms Task Options. If programming from an LCD Terminal, with the Comms Task set to "Idle", press <HELP>, 9 to program the options.
- 8.4 Program the "Line Test Time". This option sets the time between automatic dialer line tests. The time can be programmed between 1 and 255 minutes.
When tested, if line voltage is not detected the "Phone" System Input (C01:S22) will be set to the alarm condition. If line voltage is detected, C01:S22 will be restored.
The default setting of "000" disables Line testing.
- 8.5 Assign the "Phone" System Input (C01:S22) to an Area. [MENU, 7, 1]
Assign the Input to a System Area that is always On with an appropriate Process Group. e.g. "System Local".

NOTE: If the "Add System Inputs" Area default procedure is used, and the "L" (System Local) option set to Yes, this Input (C01:S22) is assigned to the Area with the "System Local" Process Group.

See "Program the Areas" (Step 4) in "Alarm Processing" for details.

Note that the default "System Local" Process Group does not activate any Area Auxiliaries. If an Auxiliary output is required (e.g. to activate alternative reporting method such as cellular interface) you may choose to program a similar Process Group for this Input, but with one or more Area Alarm Auxiliaries set to Yes.

[MENU, 2, 4, 3]

A "Line Fault" System Input (C01:S12) is also provided. This System Input is set to the Alarm condition if line voltage is not detected when the system attempts to dial. You may choose to process this Input in the same manner as the "Phone" System Input.

Remote Access and Remote Control

The system can be accessed by remote devices for the purposes of Upload/Download and Remote Control.

The following options are available:

Upload/Download and Remote Control.

- 1) Control Module answers (or Calls back) PC via On-board modem.
 Uses standard PSTN Telephone Line via on-board Dialer modem. (No additional hardware required).
 Allows system Programming, Review monitoring and Remote Control using Upload/Download software, such as PCDirect at up to 1200 Baud.
Follow Steps 1, 2, 3 and 7.
- 2) Control Module answers PC via External modem.
 Uses standard PSTN Telephone Line. A 1, 2 or 4 Port UART board must be fitted to the Control Module and connected to a Dial-up modem (3rd Party item) using the Modem Interface Cable. (P/No: 993027)
 Allows system Programming, Review monitoring and Remote Control using Upload/Download software, such as PCDirect at up to 9600 Baud.
 This option is useful if the On-board modem is used for Direct Line (e.g. EarthNet) reporting, or if the higher Baud rate is required.
Follow Steps 4, 5 and 7.

Remote Control Only.

- 3) Control Module answers Touch-tone (DTMF) telephone via On-board modem.
 Uses standard PSTN Telephone Line via on-board Dialer modem. (No additional hardware required).
 Allows Remote Control of Areas and Auxiliaries using any Touch-tone (DTMF) telephone.
Follow Steps 2, 3, and 6.

1. Program Telephone Numbers. [MENU 7, 3, 2]

IF the system is required to Call back the PC following a successful logon sequence for added security, program the required "Telephone Number/s". (NOTE: Only available if using the On-board modem.)

You may need to program one or two Telephone numbers.

- A PABX Access code **IF** the system needs to access an external line via a PABX connection.
- The Telephone number of the PC's modem. (The "Call back" number)

- 1.1 Select a Telephone number (TNxxx) to program.
- 1.2 Program a name for each Telephone number programmed.
 e.g. "Callback Number" and "C'back PABX Acc" (If required)
- 1.3 Enter the actual Telephone number/s.

2. Program the Answer Call Comms Task options. [MENU 7, 3, 1]

IF the system is required to answer a call from a PC or Touch-tone phone via the On-board modem, program an "Answer Call" Comms Task.

- 2.1 Select a new Comms Task (CTxxx) to program.
 OR If a Comms Task is already programmed for "Answer Call", select this Comms Task.
- 2.2 Select the "Answer Call" Comms format.

- 2.3 Program the Answer Call Comms Task Options. If programming from an LCD Terminal, with the Comms Task set to "Idle", press <HELP>, 9 to program the options.
- 2.4 Enter the number of "Rings to Answer" between 001 and 019. This is the number of rings required to be sensed before the Control Module will answer the incoming call.
- 2.5 Program any of the Answer Call options required. [F 3 C T S D . .]
The options are:
- Fax Bypass. Set to Yes if the Line is shared with a Fax machine or similar device. When set to Yes this option enables Fax Bypass by sensing if the phone stops ringing before the required number of rings. If detected it will loop the line in parallel with the other device that answered the phone (e.g. fax machine) and wait a pre-determined time for DTMF tone to be sensed from the PC.
 - 300 Baud only. Set to Yes to force comms speed to 300 Baud irrespective of the modem type. Only used if comms is found to be unreliable at higher baud rates due to a poor quality line.
 - Call back only. Set to Yes IF the Control Module is always to Call back the PC after the PC has dialed in and logged on successfully.
 - Timed Bypass. Must be set to No if DTMF Control mode is required.
Set to Yes to enable Timed Bypass. (Fax Bypass must also be set to Yes).
Allows the PC Operator to bypass the fax by dialing the system, aborting the call immediately after the fax has answered, and then dialing the system again 1 minute later. The system will recognise the sequence and answer on the 1st ring before any other device can answer.
 - Single DTMF Tone. Set to Yes IF DTMF Remote Control mode is required, AND "Fax Bypass" is set to Yes.
 - DTMF Control Mode. Set to Yes IF DTMF Control Mode is allowed when the Control Module answers a call and the correct DTMF tone is detected.

3. Program the Answer Call Comms Task Special options. [MENU 7, 3, 1]

- 3.1 Program the Answer Call Comms Task Special Options. If programming from an LCD Terminal, from the main Comms Task options "Rings to Answer" screen, press <HELP>, 9, to program the Comms Task Special Options.
- 3.2 Program any of the Dialing options required. [P p D F T M . 6]
The options utilized in the Answer Call Comms Task are:
- Pulse Dial Main Telephone number. Set to Yes IF the system is required to use Pulse (Decadic) dialing for the Call back Telephone number.
 - pulse Dial PABX Telephone numbers. Set to Yes IF the system is required to use Pulse (Decadic) dialing for the PABX number.
 - Dumb Dial. Not normally required. *Refer to Programming Reference section for details.*
- 3.3 IF the system needs to access an external line via a PABX connection, assign the "PABX Telephone Number".
- 3.4 Assign the "Call back Telephone Number". This is the telephone number used to dial the Computer.
- 3.5 Assign the "Customer Telephone Number". This is the telephone number of the line connected to the Control Module. Allows the Installer to have a record of the number for reference purposes.
- 3.6 Seize Auxiliary. Assign an Auxiliary ID if required.

- 3.7 Single DTMF Tone. Must be programmed if DTMF Remote Control is required.
This option selects the DTMF tones that will be used to:
-Initiate the modem answer sequence in Fax Bypass mode. The programmed DTMF tone is used.
-Initiate DTMF Remote Control mode. The programmed DTMF tone **plus one** is used.
e.g. If DTMF digit “5” is programmed, this will be used as the Fax Bypass tone and digit “6” will be used to initiate DTMF Control mode.
- 3.8 Timing Parameters.
DTMF Tone Wait. Default is 5 seconds.
Line Test Count. Should be left at “000” unless advised otherwise.
Answer Wait. Default is 0 seconds.
CAUTION: These parameters normally only changed if advised by Distributor Technical Support.
Refer to Programming Reference section for details before attempting to edit.

4. Program the External Modem Comms Task options. [MENU 7, 3, 1]

IF the system is required to answer a call from a PC via an External modem, program an “External Modem” Comms Task.

- 4.1 Select a new Comms Task (CTxxx) to program.
- 4.2 Select the “External Modem” Comms format.
- 4.3 Program the External Modem Comms Task Options. If programming from an LCD Terminal, with the Comms Task set to “Idle”, press <HELP>, 9 to program the options.
- 4.4 Enter the number of “Rings to Answer” between 001 and 019. This is the number of rings required to be sensed before the Control Module will answer the incoming call.
- 4.5 Define the UART “Port to Use” that the External Modem is connected to. Must be Port 1 to 4. Port 0 not allowed.
- 4.6 Program the Baud rate for communications between the UART Port and the External Modem. Normally 9600.

5. Program the External Modem Comms Task Special options. [MENU 7, 3, 1]

- 5.1 Program the External Modem Comms Task Special Options. If programming from an LCD Terminal, from the main Comms Task options “Rings to Answer” screen, press <HELP>, 9, to program the Comms Task Special Options.
- 5.2 Program any of the Dialing options required. [P p D F T M . 6]
The options utilized in the External Modem Comms Task are:
- Pulse Dial Main Telephone number. Set to Yes IF the system is required to use Pulse (Decadic) dialing for the Call back Telephone number.
- pulse Dial PABX Telephone numbers. Set to Yes IF the system is required to use Pulse (Decadic) dialing for the PABX number.
- Dumb Dial. Not normally required. *Refer to Programming Reference section for details.*
- 5.3 Assign the “Customer Telephone Number”. This is the telephone number of the line connected to the External Modem. Allows the Installer to have a record of the number for reference purposes.
- 5.4 Timing Parameters.
DTMF Tone Wait. Default is 5 seconds.
Line Test Count. Should be left at “000” unless advised otherwise.
Answer Wait. Default is 0 seconds.
CAUTION: These parameters normally only changed if advised by Distributor Technical Support.
Refer to Programming Reference section for details before attempting to edit.

6. Program the DTMF Control. [MENU 7, 3, 3]

IF DTMF Remote control is required, the DTMF Control Code/s and Function/s must be programmed.

- 6.1 Select a new "DTMF Control" to program. (DCxxx)
- 6.2 Define the 4 digit "Control Code".
If a number of similar DTMF Remote Control functions are required, remembering the codes can be made easier by defining the function of some of the digits in a particular system.
e.g. If Remote On and Off Control of 4 Areas is required.
The first 2 digits can be undefined digits, but the same for all codes. (e.g. 85) The 3rd digit could be used to define the Area number and the 4th digit to select On (e.g. 6 - "N" key on phone) or Off (e.g. 3 - "F" key on phone).
So; 8526 = Area 2 On. 8533 = Area 3 Off. etc.

Remember that once you have dialed in to the system and
- 6.3 Select the DTMF Control "Function".
-Area On.
-Area Off.
-Auxiliary On (seconds). To turn an Auxiliary On without a timer, select this option and ensure that the "Auxiliary Time" is set to "000".
-Auxiliary On (minutes).
-Auxiliary Off.
- 6.4 IF an Auxiliary Control function is selected, define the "Output Auxiliary" to control.
Enter the Auxiliary ID.
- 6.5 IF an Area Control function is selected, define the "Area to Operate".
Enter the Area number.
- 6.6 IF an "Auxiliary On" Control function is selected, and an On time is required, program the "Auxiliary Time".
Enter the time period required. This will be in seconds OR minutes depending on the Auxiliary On function selected.

NOTE: The table on the following page can be copied to record the system Telephone number, Control mode tone, Control Codes and Functions. A similar table is also provided at the rear of the Revision 3 User Manual.

7. Check/Program Menu Groups. [MENU 2, 4, 1]

Any User that is allowed to access the system remotely from a PC with Upload/Download software must have permission to do so via the "Menu Group" assigned to their "User Type".

You will need to check that the appropriate Menu Group/s (if any) allow Remote Access.

Level of access once logged in will depend on User Number:

User 00001. All programming and all on/off control allowed. Must not be locked out by "Master User" (U00002)

User 00002. Some programming (no Installer Menu, etc.) and all on/off control allowed.

User 00003 and higher. No programming and some on/off control allowed.

- 1.1 Select a Menu Group to edit.
- 1.2 Program the appropriate functional options allowed for the Menu Group. [R I D C S A M T]

-Remote Access. Set to Yes IF User is allowed remote access via Upload/Download software.
- 1.4 Assign the Main Menu options that the Menu Group will allow access to. [R A I T t . S C]
Review & Information, Access, Isolate, Test, times, Security and Control.
- 1.5 Assign the Sub Menu options that the Menu Group will allow access to. [U T L G Z R A]
User Codes, User Types, Lists, Groups, TimeZones, Review and Adjust Counters.

DTMF CONTROL DETAILS

System Telephone No:

“Control Mode” Tone:

Control Codes:	Action.
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —
— — — —

(Depending on Memory size fitted, either 8 or 16 Control Codes will be available)

REMOTE ACC

Miscellaneous Options

Control of “Common” Areas.

Program **Areas**. [MENU 7, 1]

An Area that is to be automatically controlled by a one or more other Areas can be assigned to the other Area/s as a “Sub Area”.

e.g. The “Foyer” Area is:

- automatically turned Off if the “Admin” OR “Sales” OR “Showroom” Area is turned Off.
- automatically turned back On only when all of the other Areas are On.

In the Area programming for each of the three controlling Areas (Admin, Sales and Showroom), assign the “Foyer” Area as the “Sub Area”. No programming is required for the Foyer Area.

See “Programming Areas” (MENU, 7, 1) in the “Programming Reference” section for details of Sub-Area Programming.

Area Control via Zone Inputs.

Program **Function Zones**. [MENU 7, 5, 3]

Function Zones provide for control of Areas or Area Lists by devices connected to Zone Inputs, such as:

- Keyswitches.
- Outputs from Remote Control Receivers.
- Outputs from other 3rd party equipment such as Building Management Systems.

See “Function Zones” (MENU, 7, 5, 3) in the “Programming Reference” section for details of Function Zone Programming.

Auxiliary Output Control via Zone Inputs.

Program **Function Zones**. [MENU 7, 5, 3]

Function Zones provide for control of Auxiliaries by devices connected to Zone Inputs, such as:

- Keyswitches.
- Outputs from Remote Control Receivers. (e.g. Open Garage Door)
- Outputs from other 3rd party equipment such as Building Management Systems.
- Push buttons. (e.g. Activate Doorbell)

See “Function Zones” (MENU, 7, 5, 3) in the “Programming Reference” section for details of Function Zone Programming.

Auxiliary Output Control from LCD Terminals.

Program **Home Auxiliaries**. [MENU 7, 5, 5]

Home Auxiliaries allow Auxiliary Outputs to be controlled by Users from LCD Terminals. Home Auxiliaries are named allowing easy selection, and can also be controlled by Zone Inputs if required. This provides for simple yet sophisticated control of lighting, airconditioning, irrigation, and many other applications.

See “Home Auxiliaries” in the “Applications Programming Guide” section and “Home Auxiliary Programming” (MENU, 7, 5, 5) in the Programming Reference section for details of Home Auxiliary Programming.

Timed Auxiliary Output Control.

Program Auxiliary Timers. [MENU 5, 5]

With “Auxiliary Timer” programming, any Auxiliary Output in the system can be programmed to be activated for a specific period of time regardless of the mechanism used to trigger the Auxiliary.

The Timer can be specified in the range of 1 to 255 seconds OR 1 to 255 minutes.

See “Auxiliary Timers” (MENU, 5, 5) in the “Programming Reference” section for details of Auxiliary Timer Programming.

Auxiliary Logic and Control functions.

Program Calculated Auxiliaries. [MENU 7, 5, 4]

Calculated Auxiliaries allow:

-Auxiliaries to be used in simple Logic equations to achieve more complex Auxiliary Output Control and Timing functions.

-Auxiliary Actions to:

- Turn Area/s On and/or Off.
- Lock and/or Un-lock Door/s.
- Secure and Free Floor/s.

-Auxiliary Actions to provide:

- Anti-Passback Amnesty.
- Clear User Count in an Area.
- Clear an Event Counter.

See “Calculated Auxiliaries” (MENU, 7, 5, 4) in the “Programming Reference” section for details of Calculated Auxiliary Programming.

Model 3000 / Access 4000

APPLICATIONS PROGRAMMING GUIDE

This Applications Programming Guide provides a step-by-step approach to programming many system applications in addition to the general features described in the Basic Programming Guide.

For detailed explanations of individual programming options refer to the “Programming Reference” section.

FOR UPDATES:

Check Website regularly for:

- New documents to be added to this section.
- New Revisions (Updates/changes) of existing documents.

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ANTI-PASSBACK & “WRONG AREA” PROCESSING

These features are an enhancement to Access Control operation and are designed to monitor and/or prevent the abuse of access privileges.

When Access Control is utilized, and “Inside” and “Outside” Areas are assigned to the Doors, the system maintains a record of the Area that every User is currently in. (Note that this requires every access controlled Door to have IN and OUT Readers installed.)

Anti-Passback is used to monitor/prevent a User from Entering an Area that the system record says that they are already in.

When a User presents their Card at a Door Reader, the system checks which Area:

- a) Is on the opposite side of the Door. i.e. The Area that the User is attempting to Enter.
- and b) Is recorded as being the Area that they are currently in.

As long as these two Areas are different, access will be granted. If the two Areas are the same, then an Anti-Passback violation will be recorded (Soft Anti-Passback), and the User may also be denied Access (Hard Anti-Passback)

In more complex systems where there are more than two Areas, Anti-Passback processing alone may not be adequate. In this situation, “Wrong Area” processing may be added to enhance the integrity of the system.

“Wrong Area” is used to prevent a User from Exiting an Area unless the system record says that they are currently in that Area.

When a User presents their Card at a Door Reader, the system checks which Area:

- a) Is on the same side of the Door. i.e. The Area that the User is attempting to Exit.
- and b) Is recorded as being the Area that the User is currently in.

As long as these two Areas are the same, access will be granted. If the two Areas are different, then a “Wrong Area” violation will be recorded, and the User will be denied Access.

1. Check/Program Access Group requirements. [MENU, 2, 4, 2]

- 1.1 Program a new Access Group (or select an existing Access Group if appropriate) and Check/Program the Access Group parameters as described in the Basic Programming Guide under “Access Groups”.
- 1.2 Program the Entry Anti-passback Mode.
 - None. No Anti-Passback processing will occur on Entry through the Door.
 - Soft. A Review message will be logged for Anti-Passback violations on Entry through this Door.
 - Hard. Access will be denied and a Review message logged for Anti-Passback violations on Entry attempts through this Door.
- 1.3 Program the Exit Anti-passback Mode.
 - None. No Anti-Passback processing will occur on Exit through the Door.
 - Soft. A Review message will be logged for Anti-Passback violations on Exit through the Door.
 - Hard. Access will be denied and a Review message logged for Anti-Passback violations on Exit attempts through the Door.
- 1.4 Program the Access Group options. [I D E X T]
 - Set the “E” (No ENTRY if Wrong Area) option to Yes IF Wrong Area processing is required on Entry.
 - Set the “X” (No EXIT if Wrong Area) option to Yes IF Wrong Area processing is required on Exit.

2. Check/Program the Doors [MENU, 7, 6]

- 2.1 Select a Door and Check/Program the Door parameters as described in the Basic Programming Guide under “Doors”.
- 2.2 Ensure that an “Inside” and/or “Outside” Area is assigned as required.
- 2.3 Ensure that an Access Group is assigned that provides the Anti-Passback and/or Wrong Area processing required.

3. Program the Calculated Auxiliary “Amnesty” options [MENU, 7, 5, 4]

It may be necessary to provide an option to periodically reset all Users to “Area 0” (No Area). This will allow any Users who are denied access due to Anti-passback violations, to be granted normal access again.

This may be done:

- automatically once a day via a TimeZone.
- as required via a PIN code or keyswitch etc.
- automatically when an Area is turned Off.
- etc.

This can be performed in a number of different ways. (*See table below*)

Depending on the method to be used, other functions will need to be programmed to produce the Auxiliary On/Off operation that will in turn be used in the Calculated Auxiliary to reset the User Area records.

3.1 Select a new Calculated Auxiliary to program.

3.2 Select the Calculated Auxiliary Action.

- Amnesty +ON. User Area records will be reset to “No Area” when the 1st Auxiliary turns On.
- Amnesty -OFF. User Area records will be reset to “No Area” when the 1st Auxiliary turns Off.

3.3 Define the “1st Auxiliary”.

The table below defines the additional function that will need to be programmed to produce the Auxiliary operation required.

Note that more than one method of activating the Auxiliary may be used.

e.g. A TimeZone may be programmed to turn the Auxiliary On for several seconds at 1 AM every morning to provide Anti-passback Amnesty ready for the next day. The same Auxiliary may also be turned On for several seconds by a User with a Keyswitch or Home Auxiliary at any other time that they decide Amnesty is required.

Method of Control	Programming Required
User via PIN code.	Program a Home Auxiliary [MENU, 7, 5, 5] , plus Auxiliary Timer [MENU, 5, 5]
Automatic based on Time of Day / Day of Week.	Program a TimeZone [MENU, 5, 2] and select "Auxiliary On/Off Sec" Control function.
Automatic based on Day of Month / Day of Year.	Program a Diary [MENU, 5, 4] with the "Diary Auxiliary" assigned, plus Auxiliary Timer [MENU, 5, 5]
By a Keyswitch, Pushbutton, Input, etc.	Program a Function Zone [MENU, 7, 5, 3] utilizing the Auxiliary Control options, plus Auxiliary Timer [MENU, 5, 5].
Remotely via Touch tone telephone. (V3 or later)	Program Answer Call Comms Task [MENU, 7, 3, 1] and DTMF Control [MENU, 7, 3, 3] utilizing the Auxiliary Control options.
Remotely via P.C.	Program PCDirect or ACCEPT Comms Task [MENU, 7, 3, 1] , plus Auxiliary Timer [MENU, 5, 5].

AUTO-ARM AN AREA WHEN NO ZONE ACTIVITY (MOVEMENT) DETECTED. (V2 OR LATER)

The following programming enables an Area to automatically Arm when no Zone activity (movement) is sensed on selected Detectors for a specified period of time.

This procedure involves setting up a special controlling Area that simply monitors the selected Zones and generates a timed output for use in a Calculated Auxiliary program. (This Area would not perform any alarm annunciation or reporting functions.)

The programming in this application is similar to the application “Timed Auxiliary Control by Movement Detectors”. If required, these two applications could be combined, allowing control of Lighting, Heating & Aircon as well as the Auto-Arming operation from a single controlling Area.

1. Program the Input/s that the Detector/s are connected to. [MENU 7, 0]

It is most likely that the Inputs used for this purpose are already used as Burglary or Entry/Exit Zones, etc. and will already be programmed. If additional Detectors are installed for the sole purpose of monitoring movement in order to control this Auto-Arm function, then the Inputs that these Detectors are connected to must also be programmed.

- 1.1 Select the Input to be programmed/edited and program a name and other attributes as described in “Alarm Processing”. (If not already programmed)

2. Program the Process Group. [MENU 2, 4, 3]

For this function, the Input/s to be monitored for activity must be assigned to a separate Area that is only used to facilitate this Auto-Arm function.

(This is in addition to any Area/s the Input/s will be assigned to for normal Intruder alarm functions, etc.)

A dedicated Process Group must be programmed for monitoring Zone activity for this function.

- 2.1 Select the Process Group to be programmed/edited and program a name. e.g. Zone Activity.
- 2.2 Ensure that the required “Input Type” options are programmed. [T A E X U P L S]
-Ensure the “A” (Alarm) option is set to Yes. Leave all other options set to No.
- 2.3 Program the “Alarm Siren Tone selection” to any option other than “None”. e.g. “Sweep”
- 2.4 Ensure that the “Siren Lockout” option is set to No.
- 2.5 Set the “Siren Re-trigger” option to Yes.

3. Program the Area. [MENU 7, 1]

For this function, a separate monitoring Area will need to be created for each Area that is to be controlled.

e.g. Program Area 21 to provide the Auto-Arm function on Area 1.
Program Area 22 to provide the Auto-Arm function on Area 2.
etc.

After programming, the Area must be turned On for the function to operate.

Typically, this Area would NOT be included in Area Lists assigned to normal Users.

- 3.1 Create a new Area and program a name.
- 3.2 Set the “External Siren Mode” to “Instant”.

- 3.3 Set the “N” option (No Siren Cancel) to Yes in the Area Options. [THDNPWF.] (V3 or later only)
- 3.4 Program a Siren Time. (1 to 255 minutes)
This is the time period for which no Zone activity must be detected before the Area will automatically Arm. (Each time movement is detected on any Input in the Area that uses the Process Group with the “Siren Re-trigger” option set to Yes, the Siren timer will be re-started)
- 3.5 Ensure that a Siren List IS NOT assigned to the Area. (Set to SL000)
- 3.6 Program the “Siren Auxiliary”. This is the Auxiliary that will be used to trigger the Area Arm function. This Auxiliary can be a “phantom” Auxiliary as no physical output is required. e.g. C01:X32.

(Note that no Siren outputs will be activated because there is no Siren List assigned to this Area.)
- 3.7 Assign the Input/s to the Area using the Process Group programmed for this function in Step 2. The Inputs assigned are only the Detectors that are to be monitored for Zone activity (movement).

4. Program a Calculated Auxiliary. [MENU 7, 5, 4]

A Calculated Auxiliary must be programmed to turn the required Area ON when the Siren Auxiliary turns Off.

- 4.1 Select the Calculated Auxiliary to be programmed/edited.
- 4.2 Select the “Area Control” Calculated Auxiliary Action.
- 4.3 Set the “O” option (Area ON when 1st Aux Off) to Yes in the Area Control Options. [OFof]
DO NOT select any other options.
- 4.4 Assign the Area (or Area List) to be turned On (Armed)
- 4.5 Program the “1st Auxiliary”. Assign the Siren Auxiliary selected at Step 3.6 above.

5. Enable / Disable the feature.

Enabling and Disabling this feature is simply a matter of turning the Area On to Enable; and turning it Off to Disable.

The Area can be turned On and Off automatically if required, or manually by Users according to the User Programming, or with a Keyswitch or Pushbutton input, etc.

This table provides a summary of Area Control options.

Refer to Programmer’s Reference section for programming details.

Method of Control	Programming Required
User via PIN code or Card	See <i>User Programming</i> . (Area Lists, User Types & User Codes)
Automatic based on Time of Day / Day of Week.	Program a TimeZone [MENU, 5, 2] and select Area Control function.
By a Keyswitch, Pushbutton, Input, etc.	Program a Function Zone [MENU, 7, 5, 3] utilizing the Area Control options.
By an Auxiliary.	Program a Calculated Auxiliary [MENU, 7, 5, 4] and select the Area Control Action.
Remotely via Touch tone telephone. (V3 or later)	Program Answer Call Comms Task [MENU, 7, 3, 1] and DTMF Control [MENU, 7, 3, 3]
Remotely via P.C.	Program PCDirect or ACCEPT Comms Task [MENU, 7, 3, 1]

BATTERY TESTING (V3 OR LATER)

On any module with on-board Power Supply and Battery charger circuit, when an AC Fail condition occurs, the battery is constantly monitored so that a System Input alarm can be generated if the voltage drops below a pre-defined level. (Typically around 10.8V)

Low Battery System Inputs.

Control Module:	C01:S05	Expander Modules:	B/Exx:S05
Intelligent 4 Door Access Modules:	Ixx:S21	LAN Power Supply Modules:	Pxx:S03

These System Inputs should always be assigned to a “System Area” or “Power Problems Area”, with an appropriate Process Group, so that an alarm will be reported under Low Battery conditions. This feature has always been available in the product.

Version 3 firmware (or later) now provides dynamic battery testing that also allows periodic testing of batteries under full load conditions, so that battery operation is much more reliable when an AC fail condition occurs.

This feature enables dynamic Battery testing on:

- The Control Module.
- The Expander Modules. (“B” and “E” Type Expanders only).
- The Intelligent 4 Door Access Module. (Version 3.5 Control Module Firmware or later only)
- The LAN Power Supply Module. (Version 4.5 Control Module Firmware or later only)

Battery Testing is activated by a special Diary function and tests each module in sequence for the specified Battery Test Time beginning with the Control Module. i.e. At any one time there will only be one module under test. Battery Testing finishes once all modules set for testing have completed their test.

The battery test turns off the battery charge circuit on the Module, allowing the Module to run off the battery supply only. (The test does not turn off the AC Mains supply to the Module)

Battery testing on a particular Module will be aborted if:

- Siren output/s are activated on the Module.
- An AC Mains failure occurs on the Module.
- A LAN failure occurs on the Module.
- A Low Battery Alarm occurs on the Module.
- The Power Test Menu is entered by a User.

Review messages are generated for each Module tested indicating the Module number and whether the test on that Module was Skipped, Started, Passed, Failed or Aborted.

1. Program the Battery Test Diary Function. [MENU 5, 4]

1.1 Program the Date and Time for the Battery Test to commence.

Utilizing a Diary function for Battery Testing allows the installer to dictate the frequency of Battery Testing based on the system requirements.

For Battery Testing the Time fields should always be programmed to define the Start Time of the Test.

The Date can have certain fields left blank allowing for Battery Testing to occur on a regular basis without the need to re-program the Date and Time.

- e.g. Battery Testing to start at 7 PM on the 1st day of every month of every year: 01 / __ / __ - 19 : 00
 Battery Testing to start at 10:30 AM every day of every year: __ / __ / __ - 10 : 30
 Battery Testing to start at 10:30 AM every Tuesday of every week: (See below) __ / __ / __ - 10 : 30

1.2 Program the Valid Days. Normally all days set to Yes unless you want the Battery Testing to occur weekly on the same day each week. (Or two to six times a week on the same days each week)

If this is the case, program the Date and Time leaving all the Date fields blank and program the Time for the Battery Test Start Time. e.g. __ / __ / __ - 09 : 00

Now program the Valid Days leaving all Days set to No, except for the Day on which testing is to occur.

- e.g. If testing is to occur every Tuesday: S M T W T F S
 n n Y n n n n

- 1.3 IF you want a message to appear on one or more LCD Terminals while the Battery Testing is running, program the 1st and 2nd lines of the text message to be displayed.

e.g. 1st line: Battery Testing
2nd line: In Progress

NOTES:

1. For Diary messages to be displayed on an LCD Terminal, the Diary messages option must be enabled in LCD Terminal programming. [MENU 7, 2, 1] In the “Messages” options (SMDLIA.O) the “D” option (Diary messages) must be set to Yes.
2. A Diary message can be overridden by Alarm messages, Level messages (AC Fail, Low Battery, etc) and higher priority Diary messages depending on the settings of the other “Messages” options in the LCD Terminal programming. (Higher numbered Diary messages have higher priority)

- 1.4 In the Diary Function options, select “Battery Test”.

2. Program the Control Module Battery Test Time. [MENU 7, 5, 1]

- 2.1 Program a general Battery Test time. This is the time period that will be used to perform battery testing on the Control Module. A Battery Test time of “0” means that the module will not be included in Battery Testing.

3. Program the Battery Test Times for LAN Modules. [MENU 7, 2, x]

- 3.1 Program the “Battery Test time” required for each of the following Modules in the system that are to have Dynamic Battery Testing performed:

-Big Expanders [MENU, 7, 2, 3]
-16 Zone Expanders [MENU, 7, 2, 7]
-Intelligent 4 Door Access Modules [MENU, 7, 2, 8]
-LAN Power Supply Modules [MENU, 7, 2, 0, 1]

A Battery Test time of “0” means that the module will not be included in Battery Testing.

- e.g. Assume a system is installed with one of each of the above Modules. (5 Modules including the Controller) The Battery Testing is programmed to Start at 11 AM every Wednesday, and the Battery Test Times for all Modules are programmed for 30 minutes.
Assuming that no tests fail, or are cancelled, Battery Testing on the last Module will commence at 1 PM, and will end at 1:30 PM.

Battery Test Times.

Battery Test Times can be programmed for each individual module from a period of 0 (No Test) to 255 minutes. Test Times should be set after consideration of the Module load. i.e. The total current supplied by the Module’s power supply for PCB operation, Detector power, Auxiliary operation and LAN power, etc.

A battery test time of 1 to 10 minutes will effectively test for battery presence. A time of between 60 to 120 minutes (depending on load) would determine that a battery is in good working order. Periods greater than 120 minutes should only be set for deep discharge testing conditions where the reliability of the AC mains supply can be guaranteed.
e.g. If a battery was tested for 4 hours and then the AC supply to the building failed shortly after testing was complete, the charge of the battery would be severely affected, and when coupled with the age of the battery, could greatly reduce the integrity of the system.

When choosing a suitable Battery Test Time, the battery Discharge Characteristic should be taken into account. Note that the rated capacity is normally specified under relatively low load conditions. e.g. A 12V 7.0 AH battery is rated at 7 Amp Hours when the load is around 350mA. With a 1 Amp load, capacity reduces to approximately 6 Amp Hours.

Battery Test Times should be programmed so that the Battery will not approach the 11 Volt point.

This is important for two reasons:

- 1) This is approximately the voltage where the “Low Battery” System Input is activated.
- 2) The Battery voltage drops off quite rapidly after the 11 Volt point is reached.

If deep discharge testing is required, a general guideline would be to program a Battery Test time of no more than half the time taken for the Battery to drop to 11 Volts. This will ensure that the Battery Voltage during Testing does not drop below 12 Volts and that sufficient charge was still present for Backup operation in the event of AC fail occurring soon after Battery Test.

The following table provides the typical discharge characteristics for 12Volt 7.0 AH Sealed Lead-Acid Batteries @ 25°C and shows the time taken for the terminal voltage to drop to approximately 12 Volts and 11 Volts.

Load Current	Discharge Time.		Effective capacity
	To ~12V	To ~11V	
350mA	12 Hours	20 Hours	7.0 AH
650mA	6 Hours	10 Hours	6.5 AH
1 Amp	3.5 Hours	6 Hours	6.0 AH
1.2 Amp	3 Hours	4.5 Hours	5.4 AH
1.75 Amp	1.5 Hours	2.5 Hours	4.4 AH
4.2 Amp	30 Minutes	50 Minutes	3.5 AH

4. Program the Area/s for Battery monitoring. [MENU 7, 1]

NOTE: The Battery monitoring system inputs may already be assigned to an Area:

- a) If the “Add System Inputs” option has been used to automatically assign System Inputs to one or more Areas. *See the section on “Area Defaulting” in Area Programming (MENU, 7, 1) for details.*
- b) If the Inputs have already been assigned manually by the installer.

If this has not been done, then follow the procedure below.

- 4.1 Create a new Area for Battery test monitoring or use an existing Area that is utilized for System alarms.
- 4.2 Program the required Area options. (Siren operation, Auxiliaries to activate, etc.)
- 4.3 Assign the “Battery Test Fail” and “Low Battery” System inputs to the Area with an appropriate Process Group.
e.g. PG010 System Silent.

The Low Battery and Battery Test Fail System Inputs are as follows:

Low Battery - Control Module. C01:S05
Battery Test Fail - Control Module . C01:S09

Low Battery - 16-32 Zone Expander Modules (B & E Type Expanders). Bxx:S05 / Exx:S05
Battery Test Fail - 16-32 Zone Expander Modules (B & E Type Expanders). Bxx:S09 / Exx:S09

Battery Test Fail - Intelligent 4 Door Access Module. Ixx:S19
Low Battery - Intelligent 4 Door Access Module. Ixx:S21

Low Battery - LAN Power Supply Module. P01:S03
Battery Fail - LAN Power Supply Module . P01:S04
Battery Test Fail - LAN Power Supply Module . P01:S15

CAMERA CONTROL AND MONITORING (V3 OR LATER)

V3 firmware now provides special Input processing, Auxiliary processing and Event Counting options that are suitable for the control and monitoring of 35mm security cameras.

Cameras can be:

Triggered on “Suspicion” condition with a timeout period.

Triggered on an alarm to run until the alarm is acknowledged or reset. e.g. Holdup, Burglary, etc.

Tested manually or during Area Pre-Arm Testing.

Monitored for alarm on Tamper contacts and Film Out contacts.

Monitored for Film Count levels with two alarm trigger points. e.g. Film Low and Film Out.

Installation Notes:

- 1) Mini Expander Modules must be used if the Film Counting option is utilized.
The Frame Count output from each Camera must be wired to Mini Expander Module Zone Inputs 1 to 7.
i.e. Mxx : Z01 to Mxx : Z07. Film counting is not supported by Zone 8.
- 2) Frame Count Inputs do not utilize End-Of-Line Resistors. The Counter will increment by 1 whenever an Open to Short transition occurs on the Input.
- 2) If Camera Testing is required, the Auxiliary used to Trigger Cameras should be Auxiliary 8 on a Mini Expander Module. i.e. Mxx : X08. This Auxiliary has a special timing options to prevent film wastage during testing.
- 3) If special combination Holdup/Suspicion button assemblies are used, these must be connected to Mini Expander Modules, Zone Inputs 1 to 7. i.e. Mxx : Z01 to Mxx : Z07. These units are not supported by Zone 8.

Camera Film Count Monitoring.

1. Program the Input/s used for Camera Frame counting. [MENU 7, 0]

These Inputs must be connected to Mini Expander Module/s.

- 1.1 Program the Zone Input/s that the Frame count contact/s are connected to. i.e. Mxx : Z01 to Mxx : Z07
These will be used for “Film Low” monitoring. (When Count exceeds “Trigger Count 1” programmed in “Counters”)
Select the Input to be programmed/edited and program a name and other options as described in “Alarm Processing”. For Frame Counting Inputs, all Input Options normally left set to No.
- 1.2 Check the programming of the corresponding System Input/s.
i.e. Mxx : S02 (Zone 1 Extra) to Mxx : S08 (Zone 7 Extra)
These will be used for “Film Out” monitoring. (When Count exceeds “Trigger Count 2” programmed in “Counters”)
Select the Input to be programmed/edited and check the Input options as described in “Alarm Processing”.
System Input names are Pre-defined. For Frame Counting Inputs, all Input Options normally left set to No.

2. Program the Mini Expander/s (8 Zone) [MENU 7, 2, 6]

Mini Expander Modules provide several special features suitable for this application.

- Programmable Zone de-bounce for input devices that require faster processing. e.g. Film Count contacts.
- Special Input processing options for Counters.

- 2.1 Adjust the Mini Expander “Poll Time” and “LAN Priority” IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.

- 2.2 Check that the Zone Type is set to the appropriate option for each Zone used.
- Normal Zone.
 - Counter. Select this option for Camera Frame Count Inputs. This modifies input operation for:
 - Two state monitoring (Open to Short transition for counting)
 - Zone / System Input Alarms when Trigger Counts exceeded.
 - Holdup. See “Holdup / Duress Alarm -Delayed Reporting” Application Note..
 - Suspicion. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
 - Holdup+Suspicion. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
- 2.3 Set the Zone De-bounce to an appropriate period for each Zone used.
- De-bounce for Film count contacts will vary depending on the frame speed.
- e.g. If the frame speed is 4 frames per second, a Zone De-bounce of 100mS would provide reliable counting, while offering immunity to voltage spikes.

3. Program the Counters. [MENU 7, 5, 8]

A Counter will need to be programmed for each Zone Input used for Camera Frame Counting.

- 3.1 Select a new Counter and program a name. e.g. Camera 1 Film.
- 3.2 Define the Mini Expander Zone Input used for this Counter. e.g. Mxx : Zxx.
- 3.3 Select the “Counter Type”.
- Select the “2 Trigger Points” type for this application.
- 3.4 Program “Trigger Count 1”. i.e. The “Film Low” Count level.
(The Mini Expander Zone Input will go into alarm when this trigger point is exceeded)
- 3.5 Program “Trigger Count 2”. i.e. The “Film Out” Count level.
(The Mini Expander System Input that corresponds with the Zone will go into alarm when this trigger point is exceeded)
- 3.6 Program the Counter Options. [. . 4 D]
- 4 Digit display. Set to Yes if you only require a 4 Digit Count display. (0000 to 9999)
 - Display Counter. Set to Yes if the Counter is allowed to be displayed via “Read Count” in the Information Menu. [MENU, 1, 4]

4. Initialize the LAN

Following any programming changes to Mini Expanders or Counters, the LAN must be re-initialized.
If all modules are connected and operational, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

5. Program the Process Group/s for Film monitoring. [MENU 2, 4, 3]

It is recommended that a new Process Group is programmed for Frame Count Input/s for “Film Low” and “Film Out” monitoring.

- 5.1 Select the Process Group to be programmed/edited and program a name. e.g. Film Monitor
- 5.2 Program the required “Input Type” options. [T A E X U P L S]
- Set the “A” (Alarm) option to Yes.
- 5.3 Program the required “Communications Reporting” options. [I T A R E X U S]
- Typically the **I**solate, **A**larm and **R**estore options are set to Yes.

- 5.4 IF reporting via Contact ID, you may program the Contact ID Event Code to be sent for Inputs with this Process Group assigned. If left at "000" a default Contact ID message will be sent.
See the Tables section for Contact ID Event Code details.
- 5.5 Program the Area Auxiliaries to activate. [T 1 2 3 4 I]
This will be required IF a local indication of the "Film Low" / "Film Out" alarms is required.
-Set Alarm 2 Auxiliary to Yes IF you require the Auxiliary to be On while the Input is in Alarm and automatically turn Off when the Input Seals. e.g. To activate a Diary Message on the LCD Terminal/s.
-Set any other Alarm Auxiliary to Yes IF you require the Auxiliary to turn On when the Input goes into Alarm and turn Off by another mechanism. e.g. Area Off.
- 5.6 IF the "Film Low" / "Film Out" alarms are to generate an LCD message that must be acknowledged, program the LCD Terminal message Types to generate. Typically Type 1 set to Yes.
IF these alarms are to be annunciated via Diary messages, you may set all message types to No.

6. Program the Area/s for Camera Film monitoring. [MENU 7, 1]

It is recommended that separate dedicated Areas are used for Camera "Film Low" and "Film Out" alarms, particularly if these alarms are to be annunciated via Diary messages.

- 6.1 Create a new Area and program a name. e.g. Film Low.
- 6.2 Program the Area Auxiliaries to activate.
-Alarm 2 Auxiliary. IF a Diary message is to be used to annunciate the Alarm. If no physical Auxiliary activation is required, a "phantom" auxiliary may be assigned for this purpose. e.g. C01:X11 to C01:X32.
-Alarm 1, 3 or 4 Auxiliary. IF an Auxiliary is required to activate in the normal manner.
- 6.3 Assign the Input/s to the Area using the Process Group programmed for this function.
The relevant Mini Expander Zone Inputs (Film Low monitoring) should be assigned to a "Film Low" Area.
The relevant Mini Expander System Inputs (Film Out monitoring) should be assigned to a "Film Out" Area.

7. Program the Diary Messages. [MENU 5, 4]

A Diary message can be programmed so that it is only displayed when a specific Auxiliary is On.

This provides the facility to have a Diary message controlled by the Area Alarm 2 Auxiliary so that the message remains on the LCD display for as long as the alarm condition exists. By using the Alarm 2 Auxiliary, the message will be removed as soon as the alarm condition is rectified. (i.e. The Auxiliary does not need to be turned Off by another mechanism such as Area Off, etc.)

The Date, Time and Days fields are programmed to be always valid. The Diary function "Qualify Aux" causes the Diary Auxiliary to operate as a Qualify Auxiliary. i.e. Even though the Diary is always valid, the message will not be displayed unless qualified by the Diary Auxiliary.

IF Diary messages are to be used to annunciate Camera Film monitoring alarms, program Diary messages for "Film Low" and "Film Out".

- 7.1 Select a new Diary to program.
Note that Diary messages are prioritized with Diary 1 having the lowest priority.
Higher priority messages should therefore be programmed in higher Diary numbers.
e.g. Film Out is higher priority than Film Low. Therefore, if Film Low is programmed in Diary 2, Film Out should be Diary 3.
- 7.2 Ensure that the Date and Time fields are completely clear.
e.g. __ / __ / __ - __ : __

- 7.3 Program the Valid Days. Set all days to Yes.
 e.g. S M T W T F S
 Y Y Y Y Y Y Y
- 7.4 Program the 1st line of the Diary message to Display.
 e.g. "Film Low".
- 7.5 Program the 2nd line of the Diary message to Display.
 e.g. "Check Cameras".
- 7.6 Assign the Diary Auxiliary. This will be the Area "Alarm 2 Auxiliary" assigned in the previous step.
- 7.7 In the Diary Function options, select "Qualify Aux".

8. LCD Terminals [MENU 7, 2, 1]

Any LCD Terminals that are required to display Diary messages must have the "Diary Messages" option enabled.

- 8.1 Program the "Default Display message" options. [S M D L I A . O]
 Ensure that the "D" (Diary messages) option is set to Yes for all LCD Terminals where the "Film Low" / "Film Out" Diary messages are to be displayed.

9. Check/Program Menu Groups. [MENU 2, 4, 1]

Before any User Types can View and/or adjust the Count value, access to the appropriate Menu Option/s must be enabled in their Menu Group.

- 9.1 Program/Edit the "Menu Options" in the relevant Menu Groups. [R A I T t . S C]
 -Set the "R" option (Review/Information Menu) to Yes if Viewing Counters is allowed.
 -Set the "C" option (Control Menu) to Yes if Adjusting Counters is allowed.
- 9.2 Program/Edit the "Sub Menu Options" in the relevant Menu Groups. [U T L G Z R A .]
 -Set the "A" option (Adjust Counters) to Yes if Adjusting Counters is allowed.

Camera Control and Testing.**1. Program the Input/s used to Trigger Camera operation. [MENU 7, 0]**

Holdup buttons, Suspicion buttons, PIRs, etc.

- 1.1 Select the Input to be programmed/edited and program a name and other attributes as described in “Alarm Processing”.

2. Program the Mini Expander/s (8 Zone) [MENU 7, 2, 6]

Mini Expander Modules provide several special features suitable for this application.

- Programmable Zone de-bounce for input devices that require faster processing. e.g. Momentary pushbuttons.
- Special Auxiliary output timing options on Auxiliary 8.

- 2.1 Adjust the Mini Expander “Poll Time” and “LAN Priority” IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.
- 2.2 Check that the Zone Type is set to the appropriate option for each Zone used.
 - Normal Zone.
 - Counter. Set to Yes for Camera Frame Count Inputs.
 - Holdup. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
 - Suspicion. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
 - Holdup+Suspicion. See “Holdup / Duress Alarm -Delayed Reporting” Application Note.
- 2.3 Set the Zone De-bounce to an appropriate period for each Zone used.
 - Fast de-bounce times may be required for fast acting momentary pushbutton switches, etc.
 - 200 to 400mS is typical for normal detectors (PIRs, Door Reeds, etc.)

3. Initialize the LAN

Following any programming changes to Mini Expanders, the LAN must be re-initialized.

If all modules are connected and operational, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

4. Program/Edit the Process Group/s for Inputs to Trigger Cameras. [MENU 2, 4, 3]

It may also be necessary to program and/or edit Process Group/s for Zone Inputs that are used to Trigger the Camera/s on an alarm and/or Suspicion condition.

You will need to ensure that Process Group/s for these Inputs have the required “Area Auxiliaries to Activate” option/s set to Yes so that the Camera Auxiliary (Usually the Area Alarm 1, Alarm 3 or Alarm 4 Auxiliary programmed in the Area database) will be triggered.

See “Holdup / Duress Alarm -Delayed Reporting” Application Note.

5. Program the Area to activate Cameras. [MENU 7, 1]

Although not mandatory, it is recommended that a separate Area is programmed for Camera Control.

This ensures that:

- a) There will be no conflict of Area Auxiliary requirements with other types of alarm functions.
- b) The Area can be turned On and Off according to when Camera operation is required without affecting other alarm monitoring requirements.

Remember that the same Input can be assigned to more than one Area and have different functionality in each Area that it is in. Therefore, an Input such as a Holdup button can be assigned to the "Camera" Area with a Process Group specifically programmed for Camera control, and in a Holdup Area with a different Process Group to provide other functions such as Screen activation and Alarm reporting.

5.1 Select the Area to program or edit.

5.2 Program the Area Auxiliaries to activate.

-Alarm 2 Auxiliary. IF an Auxiliary is required to activate only while the Input/s are in the alarm state, then automatically turn Off when the Input/s are sealed.

-Alarm 1, 3 or 4 Auxiliary. IF an Auxiliary is required to activate in the normal manner.

See Notes below.

5.3 Assign the Input/s to the Area using the Process Group/s programmed for this function.

NOTES:

Mini Expander Auxiliary 8.

If using one or more Mini Expanders and Camera Testing is required in addition to Camera control, it is recommended that Mini Expander Auxiliary 8 is used to trigger the Camera/s. i.e. Mxx : X08.

Auxiliary 8 has a special precise timing feature that allows Cameras to be triggered for a very short period of time so that excessive film is not wasted in testing procedures.

When a timer is programmed for Mini Expander Auxiliary 8 in Seconds, the timer operates normally.

When a timer is programmed in Minutes, the value programmed is interpreted by the Mini Expander as the number of 10 milliSecond periods to time for. e.g. If a value of 50 minutes is programmed, Auxiliary 8 will time for 50 X 10mS. i.e. 500milliSeconds (1/2 Second)

This allows precise Auxiliary Timing to be programmed so that only 2 or 3 frames of film are used during testing.

Implementation.

1) To implement the feature, assign Mini Expander Auxiliary 8 as the Alarm Auxiliary in the Camera Control Area that will be used to trigger the Camera/s. If timing is required on this Auxiliary to limit the time that the Camera will run, program an Auxiliary Timer (MENU, 5, 5) with a time period in Seconds.

2) Next, program a means of activating a Camera Test Auxiliary. e.g:

-Program an Area for Area Pre-arm testing, and assign a Test Auxiliary.

See "Zone Input Testing" in the Applications Programming Guide for details of Area Pre-arm Testing.

-Program a Home Auxiliary specially for Camera Test.

-Program a Function Zone for Camera Test via a keyswitch or pushbutton, etc.

-Program a "Camera Test" PIN code using a special User Type with a "Valid Auxiliary" assigned.

-etc.

The Auxiliary activated must not be the Auxiliary that Triggers the Camera/s. (i.e. Use a phantom Auxiliary)

3) Finally, program a Calculated Auxiliary using the "ON if 1st ON" action.

Assign the Auxiliary activated by the previous step as the "1st Auxiliary".

Assign the Auxiliary that triggers the Camera/s as the "Result Auxiliary". (i.e. Mxx : X08)

Program the Timer in the Calculated Auxiliary for a time period in Minutes to define how many 10 milliSecond periods the Camera is to be activated for to perform the testing.

DEFER AREA ON PROCESSING (V2 OR LATER)

This feature enables Areas to be defined as “Defer” Areas.

When a User Type with the “Defer On” option set to Yes in their Menu Group, turns Off an Area that is designated as a “Defer Area”, a timer is started that will automatically turn the Area back on when it expires.

The User can logon to an LCD Terminal at any time during the defer period and perform the Area Off operation to Defer the Area On function (re-start the timer) for another period.

250 seconds before the timer expires and the Area turns On, a warning is provided on the LCD Terminal via the beeper and the “Area about to Turn On” message. The User may still logon to the Terminal and Defer the Area On function (re-start the timer) during the warning period.

If a Defer Timer is running, and the Area is turned Off by:

-A User Type with the “Defer On” option in their Menu Group set to No.

-Any mechanism other than a User Code (Function Zone, Calculated Aux, TimeZone, etc.)
the Defer Timer will be cancelled and the Area will remain Off.

IMPORTANT NOTE: From V3 to V4, if any Area or Area List is turned off by any mechanism other than a User Code, then any Defer Timer that is running will be cancelled and the Area will remain Off.

In Version 2 and V4.5 or later, only the Area/s turned off by the mechanism will have the Defer Timer/s cancelled.

The Area states display on the LCD Terminals has been enhanced to include “Area is Timed Off” (represented by a “T” in the Area Array display), and “Area Turn On Warning” (represented by a “W” in the Area Array display). (V3 or later.)

1. Program the General Area Defer Time. [MENU 7, 5, 1]

- 1.1 Program a general Area Defer Time. This is the period that the Area Defer Timer will run for if the Defer time option in the Area Database is set to “000”.

This option is useful to program if there are many “Defer” Areas, all using the same Defer time.

2. Program the Area Defer options. [MENU 7, 1]

- 2.1 Program the “Area Options”. [T H D N]
-Set the “D” (Defer Area) option to Yes.

- 2.2 Program the Area Defer Time. (V3 or later)
This is the period that the Area Defer Timer will run for in this Area.
If set to “000” the general Area Defer time will be used.

3. Check/Program Menu Groups. [MENU 2, 4, 1]

Before any User Types will have Area Defer operation on “Defer” Areas, the function must be enabled in their Menu Group.

- 3.1 Check the “Menu Group Options” programming in the relevant Menu Groups. [R I D C S A M T]
Ensure that the “D” option (Defer On) is set to Yes.

4. Check/Program User Types. [MENU 2, 2]

Before any User Types will have Area Defer operation on “Defer” Areas, the Area/s must be included in the Area List/s assigned to their User Type.

- 4.1 IF the User Type is able to turn the Defer Area/s Off, check that the required Defer Area/s are in the User Type’s “Area OFF List”.

- 4.2 IF the User Type is able to turn the Defer Area/s On before the Defer timer expires, check that the required Defer Area/s are in the User Type's "Area ON List".

5. LCD Terminals [MENU 7, 2, 1]

When the Area Defer Warning timer starts all Terminals with the "Level messages" or "Limited messages" options set to Yes, will show a warning message "<Area Name> About to Turn On" (Level message #6). This message will be refreshed every 2 seconds with a beep for the duration of the Warning.

If more than one area is in Warning time, the display will show each of the Areas in turn as the display is updated. This prompts the User/s to either exit prior to the Area turning on, or to enter their Code to re-start the Defer timer.

For all LCD Terminals where the Warning is to be displayed.

- 5.1 Program the "Default Display message" options. [S M D L I A . O]
Ensure that the "L" (Level messages) option is set to Yes.
or
5.2 Program the "Extra" options. [. L N Z]
Ensure that the "L" (Limited messages) option is set to Yes. (V3 or later)
Limited messages restricts the Terminal to display only Level message #6 and Diary 001.

6. Program TimeZone Area Defer options. [MENU 5, 2]

IF an Area Defer Timer on a "Defer" Area is to be started automatically at a specific Time, either every day or on specific Day/s of the week, program a TimeZone utilizing the "Area Defer On" function. (V3 or later)

The Area must be already Off for this function to operate. When the function is activated, the Defer timer for the specified Area will be started, and the Area will turn On when the Defer timer and the Warning period expire. (Unless Defer timer is re-started by a User operation.)

- 6.1 Select the TimeZone and program an appropriate name.
- 6.2 Program the first TimeZone period to define when the Area Defer timer will start.
The Start Time or Stop Time can be used to trigger the Area Defer function.
- 6.3 Program the Valid Days of the week for the first Period.
i.e. Days when the function is required to operate.
- 6.4 Assign the Holiday Types to be obeyed. (If necessary)
- 6.5 Select the "Area Defer On" function.
- 6.6 Assign the "Area to Operate".
- 6.7 Select the required "Control Option". [O F o f]
-On when TimeZone goes Valid. If the Area Defer timer is to start when the TimeZone goes Valid.
i.e. At the Start Time of the TimeZone Period programmed in step 5.2.
-on when TimeZone goes Invalid. If the Area Defer timer is to start when the TimeZone goes Invalid.
i.e. At the Stop Time of the TimeZone Period programmed in step 5.2.

The "F" and "f" options are not used.

e.g. Area Defer Timer to start at 7 PM weekdays.

1st Period: 09:00-to-19:00
Days: MTWTF set to Yes.
O F o f n n Y n

Area Defer Timer to start at 6 AM every day.

1st Period: 06:00-to-17:00
Days: SMTWTFSH set to Yes.
O F o f Y n n n

DOOR INTERLOCKING (V2 OR LATER)

This feature is an enhancement to Access Control operation allowing a Door to be interlocked with other Doors. This prevents the Door from being unlocked if any of the other Doors are either Unlocked or Open. Programming also allows for the Door unlock command to be qualified by Area Status, Auxiliary status and/or Zone Input status.

These features can provide options to prevent a Door from being un-locked:

- When specific Area/s are On.
- When certain types of alarms occur.
- During specified time periods.
- When a keyswitch is in the “alarm” state.
- etc.

Programming has been made simple by allowing an Interlock Group to be programmed that can be assigned to a group of Doors that are to be interlocked together. Where complex interlocking is required, the flexibility still exists to allow different Interlock Groups to be assigned to each Door if required. An Interlock Group can also have a TimeZone assigned where Interlock logic is only required during specified Times of Day and/or Days of Week.

When a User attempts to Access a Door, before unlocking the Door, the system will check that:

- All Doors in the Door List (if assigned) are Locked.
- All Doors in the Door List (if assigned) are Closed.
- All Areas in the Area List (if assigned) are Off.
- The Qualify Zone (if assigned) is Sealed.
- The Qualify Auxiliary (if assigned) is On.

When Interlocking Groups of Doors, an Interlock Group is assigned to each Door. A Door List is assigned to the Interlock Group to define the Doors included in the Interlock Group.

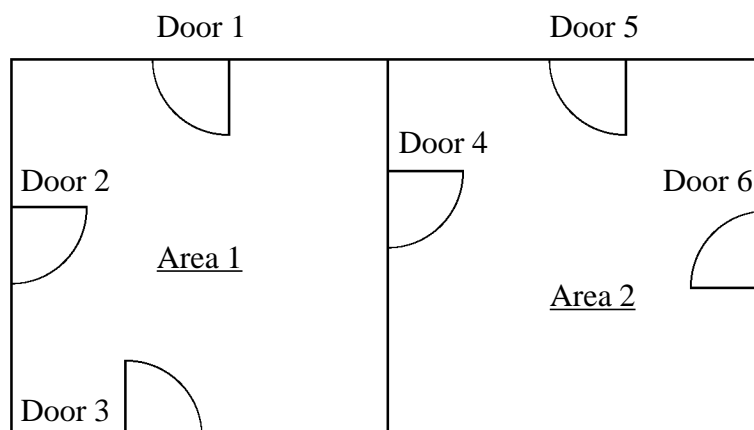
In the example illustrated below:

- 1) All Doors in Area 1 must be interlocked. (Doors 1, 2, 3 & 4)
- 2) All Doors in Area 2 must be interlocked. (Doors 4, 5 & 6)
- 3) As Door 4 provides access between the two Areas, it must be interlocked with all other Doors.

Doors are also to be prevented from being unlocked when any Area associated with the Door is On (armed).

To achieve this, three Interlock Groups must be programmed.

- 1) The first will be assigned to Doors 1, 2 & 3 and will have:
 - A Door List containing Doors 1, 2, 3 & 4.
 - An Area List containing just Area 1.
- 2) The second will be assigned to Doors 5 & 6 and will have:
 - A Door List containing Doors 4, 5 & 6.
 - An Area List containing just Area 2.
- 3) The third will be assigned to Door 4 and will have:
 - A Door List containing Doors 1, 2, 3, 4, 5 & 6.
 - An Area List containing Area 1 and Area 2.



1. Plan the Interlocking requirements.

- 1.1 For each group of Doors to be interlocked note:
- Any Door Lists required.
 - Any Area Lists required.
 - Any Zones or Auxiliaries that are to be used to Qualify the Interlock Logic.
 - Any requirements for the Interlock logic to operate only during specific Times of Day and/or Days of Week.

2. Program Door List/s. [MENU 2, 3, 2]

- 2.1 IF one or more groups of Doors are to be interlocked together, determine the Doors to be included in each group. From this information you can program the **Door Lists** required [MENU 2, 3, 2].
- 2.2 Select a Door List and program a name.
- 2.3 Assign the Door/s to each Door List. A Door List can support any number of Doors up to the maximum number of Doors allowed in the Memory configuration.

3. Program Area List/s. [MENU 2, 3, 1]

- 3.1 IF Area Status is to be used in Door Interlock logic, determine the Area/s that will be used. From this information you can program the **Area Lists** required [MENU 2, 3, 1].
- 3.2 Select a Area List and program a name.
- 3.3 Assign the Area/s to each Area List. An Area List can support any number of Areas up to the maximum number of Areas allowed in the Memory configuration.

4. Program TimeZone/s. [MENU 5, 2]

IF Interlock Logic is only required to operate during specific Times of Day and/or for specific Days of the Week, program the TimeZone/s required. [MENU 5, 2]

- 4.1 Select the TimeZone and program an appropriate name. e.g. Interlock Enable
- 4.2 Program the first TimeZone period to define when the Interlock Logic will be used.
- 4.3 Program the Valid Days of the week for the first Period.
i.e. Days when the function is required to operate.
- 4.4 IF the TimeZone requirements are more complex, program the second (and any subsequent) "TimeZone period" and "Valid Days" to define when the Interlock Logic will be used.
e.g. If the Time periods required differ from Day to Day.
- 4.5 Assign the Holiday Types to be obeyed. (If necessary)

e.g. Door Interlocking to operate from 5 PM every evening to 8 AM every morning.

1st Period: 17:00-to-__:__

2nd Period: __:__:to-08:00

Days: SMTWTFSH set to Yes.

Days: SMTWTFSH set to Yes.

5. Program the Interlock Group/s. [MENU, 7, 6]

Note: When programming via an LCD Terminal or via PC Direct Upload/Download, Interlock Group Programming can only be accessed via Door Programming. The W Direct Upload/Download software provides a separate Tab and sub-menu option for access to Interlock Group programming.

- 5.1 If programming via the LCD Terminal or PC Direct, select one of the Doors included in the Interlock Group and go to the screen/field where the Interlock Group is assigned.
For LCD Terminals, press <HELP>, 9 to access Interlock Group programming.
For PC Direct, press <INSERT>, use the <UP>/<DOWN> arrow keys to select the Interlock Group to program, then press <F9>.
- 5.2 Select an Interlock Group to program.
- 5.3 IF it is necessary to restrict the valid period of the Interlock Group, or provide an alternate set of Interlock Group Logic for different times of day and/or days of the week, assign the appropriate “TimeZone” to specify when the Interlock Group is Valid.
- 5.4 If a TimeZone is assigned, you may then specify an “Alternate Interlock Group” that will be used when the TimeZone specified in the previous step is Invalid.
- 5.5 Program the Interlock Group options. [Z T]
-Zone Qualify. Set to Yes IF the Interlock logic is to be qualified by a Zone Input. e.g. Keyswitch, etc.
-Tongue Sense. Set to Yes IF Tongue Sense Inputs on the Reader Module/s are utilized and they are to be included in the Interlock logic.
- 5.6 IF two or more Doors are to be interlocked together, assign the appropriate “Door List”.
- 5.7 IF Area Status is to be used in Door Interlock logic, assign the appropriate “Area List”.
- 5.8 IF an Auxiliary is to be used to Qualify the Interlock logic, program the “Qualify Auxiliary”.
- 5.9 IF a Zone Input is to be used to Qualify the Interlock logic, program the “Qualify Zone”.

6. Program/Edit the Door/s [MENU, 7, 6]

- 6.1 Select a Door to program/edit.
- 6.2 Check/program the Door as per “Door Programming” in the Basic Programming Guide.
- 6.3 Assign the appropriate Interlock Group.

7. Ensure Door Reed Zone Inputs and Tongue Sense Zone Inputs (IF used) are enabled for monitoring.

Since Door Forced and Door Open Too Long alarms are System Inputs generated by the Reader Module or LCD Terminal that controls the Door, the actual physical Zone Inputs that the Door Reeds and Tongue Sense Inputs are connected to may not already be enabled for monitoring.

In order to enable these Inputs for monitoring of the Door state, all Door Reed (and Tongue Sense) Zones used in interlocking logic **must** be assigned to an Area that is ON 24hrs.

The Zones are:

- Rxx:Z01 for the Reed on the first Door on a Reader Module.
- Rxx:Z05 for the Reed on the second Door on a Reader Module.
- Rxx:Z06 for the Tongue Sense contact on the first Door on a Reader Module.
- Rxx:Z07 for the Tongue Sense contact on the second Door on a Reader Module.

- 7.1 Program the **Zone Inputs**. [MENU, 7, 0]
-Program the Input names. e.g. Front Door Reed.
-Program any of the Input Attributes required for these inputs. [s C X S R A N T]
Set the "R" (No Review) option to Yes, so that changes of state on these Zones are not saved to Review.
- 7.2 Program a new **Process Group** that monitors for alarm state but does no other processing. [MENU, 2, 4, 3]
-Program a name. e.g. Door monitor.
-Input Type options. [T A E X U P L S] Set "A" (Alarm) option to Yes. All other options to No.
-All Comms options to No.
-All Area Auxiliaries to No.
-All Siren options disabled.
-All Message Types to No.
- 7.3 Assign the Door Reed Zone Inputs (and Tongue Sense Inputs if used) to an **Area** that is permanently On.
[MENU, 7, 1]
You may need to program an Area specifically for this purpose.
When assigning the Inputs use the Process Group programmed in the previous step.

DURESS CODE AND PANIC ALARM PROCESSING

The 3000 / Access 4000 offers a number of options for processing User Duress and Panic conditions generated at LCD Terminals.

When a User logs on to an LCD Terminal using a special “Duress Code” an alarm state is generated on the “Terminal Duress” System input (Txx : S05) for that Terminal.

Similarly, when a User performs the Panic operation by pressing the <HELP> key 3 times in succession an alarm state is generated on the “Terminal Panic” System input (Txx : S02) for that Terminal.

These System Inputs can then be processed as required.

Duress Codes

Duress Codes allow a User to logon to an LCD Terminal and perform operations in the usual manner while a silent alarm (or whatever form of alarm processing is required) is discreetly reported.

Common Duress Code/s.

A User Programming option allows specific User Codes to be designated as “Duress” Codes. This allows for a common Duress Code, that is easily remembered, to be programmed for all staff. (e.g. 9999)

Multiple Duress Codes can be created for multi-tenancy applications or where Duress Codes are required on a “per department” basis.

Unique Duress Codes.

A General System option allows every User to have a unique Duress code by incrementing the last digit of the normal PIN code by 1. e.g. Normal PIN is 1234; Duress PIN is 1235. Normal PIN is 6789; Duress PIN is 6780.

Panic

The Panic feature allows a User to generate a local and/or remote Panic alarm simply by pressing the <HELP> key three times in succession at an LCD Terminal.

1. General System Options. [MENU, 7, 5, 1]

- 1.1 Select the option for Unique Duress codes IF required. [N D F R f + I .]

-+1 for Duress Codes. Set to Yes to enable unique Duress Codes for every User by adding 1 to the last digit of their PIN code.

2. Users. [MENU 2, 1]

- 2.1 IF Common Duress Code/s are required, select the User Code to program.
- 2.2 Program a name for the User.
CAUTION. For Duress Codes DO NOT use any words in the User name (e.g. Duress, Holdup, etc.) that indicate that a Duress code is being used, as the name will be displayed in the greeting when the User logs on to the Terminal!
- 2.3 Assign an appropriate User Type .
- 2.4 Enter in a unique PIN code of 1 to 8 digits for the User. A PIN code length of at least 4 digits is recommended.
- 2.5 Program any of the User Options required for the Duress Code User. [N D L E G]
The relevant options are:
-Duress Code. Set to Yes IF this User Code is to be used as a system Duress PIN code.
-No Greeting. Set to Yes IF the logon greeting (e.g. Good morning Jack Frost) is not to be displayed for this User.

3. Check / Program the Process Group/s. [MENU 2, 4, 3]

One of the Default Process Groups may be suitable:

For Panic Alarms: PG009 - "System Tamper".

For Duress Alarms: PG006 - "Duress". If Terminal messages are not to be displayed. (Version 4.5 or later only)

PG010 - "System Silent". If Terminal messages are required. (*See comments at Step 3.7 below*)

If necessary, new Process Group/s can be programmed, or Default Process Groups can be modified, to cater for different processing requirements.

Note comments at Step 3.7 below.

3.1 IF a new Process Group is required, or an existing Process Group needs to be modified, select the Process Group to be programmed/edited and program a name if required. e.g. Duress.

3.2 Program the required "Input Type" options. [T A E X U P L S]

-Set the "T" (Tamper) option to Yes IF the Alarm is to be processed/reported as a Tamper condition.
(If set to Yes the alarm will be processed when the Area is On or Off.)

-Set the "A" (Alarm) option to Yes IF the Alarm is to be processed/reported as an Alarm condition.

3.3 Program the required "Communications Reporting" options. [I T A R E X U S]

Typically the Isolate, Tamper, Alarm and Restore options are set to Yes.

3.4 IF reporting via Contact ID, you may program the Contact ID Event Code to be sent for Inputs with this Process Group assigned. If left at "000" a default message will be sent:

"120" for "Terminal Panic" System Inputs. "122" for "Terminal Duress" System Inputs.

See Tables section for Contact ID Event Code details if a different Event code is required..

3.5 Program the Area Auxiliaries to activate. [T 1 2 3 4 I]

This will be required IF devices such as Cameras, Alarm indicators, Strobe, etc. are to be triggered.

-Set Alarm 2 Auxiliary to Yes IF you require the Auxiliary to be On while the Input is in Alarm and automatically turn Off when the Input Seals. (V3 or later)

-Set any other Alarm Auxiliary to Yes IF you require the Auxiliary to turn On when the Input goes into Alarm and turn Off by another mechanism. e.g. Area Off, Auxiliary Timer, Calculated Auxiliary, etc.

Note that Duress alarms are usually a Silent alarm reported to the Central Station. However, Auxiliaries may be required to provide some form of discreet local alarm indication for other personnel or an on-site guard etc.

3.6 IF Sirens are required:

-Program the Siren Tone selection for the Alarm and Tamper states.

-Set Siren Lockout to Yes IF Zones that caused the Siren activation are to auto isolate when the Siren timer expires.

Note that Sirens and Strobes, etc. are not normally used for Duress alarms as they may cause the Bandit to panic, thereby putting the victims at risk.

3.7 Program the LCD Terminal message Types to be generated.

IMPORTANT NOTE: Normally all set to No in the Process Group used for Duress Code Alarms.

This prevents a message such as "Had Alarm on T02 Duress in SYSTEM AREA" from appearing on the LCD Terminal when a User Enters the Duress Code.

In some installations this message may be required to appear on specific LCD Terminals (e.g. Only on the Guard room Terminal and/or Terminal in back office). If so, then this option can have a unique Message type number assigned (e.g. Only type 8 set to Yes); then in LCD Terminal programming [MENU, 7, 2, 1], type 8 can be added to the Alarm Message Types for those Terminals only.

(This option typically has Type 1 set to Yes for other types of alarms that require a message to appear on all the LCD Terminals)

4. Program the Terminal Panic and Terminal Duress Input/s. [MENU 7, 0]

- 4.1 IF any special Input options are required, select the Input to be programmed/edited and program the options as described in “Alarm Processing” in the Basic Programming Guide.

Note: Names do not need to be programmed for these Inputs. System Input names are pre-defined and cannot be edited.

5. Program the Area. [MENU 7, 1]

Terminal Duress and Panic alarms are normally monitored in a “System” Area that is On 24 Hours or a separate Area that is only used for Duress Code and/or Panic Alarm processing.

If these types of alarms are only monitored for part of the day, programming a separate Area allows the monitoring to be enabled and disabled by turning the Area On and Off as required.

IMPORTANT NOTE: If the “Add System Inputs” option has already been used in an Area with the System “T”amper and System “S”ilent options set to Yes [T S L I a s], then the Terminal Panic and Terminal Duress System Inputs will already be assigned to that Area using the Default Process Groups as follows:

Terminal Panic: PG009 - “System Tamper”
 Terminal Duress: PG006 - “Duress”. (V4.5 or later)
 PG010 - “System Silent”. (V4 or earlier)

These System Inputs will have only been assigned for the Terminals that were present in the system at the time. If more LCD Terminals have been installed in the system, the “Add System Inputs” function should be performed again.

If this is suitable then no further programming is required. Note however, that if the default “System Silent” Process Group is used for Duress Code alarms (e.g. In systems prior to V4.5) a message will be sent to all LCD Terminals whenever a Duress Code is entered.

It is recommended that a new Process Group is used to assign the Terminal Duress Inputs to the Area.

See Step 3 (especially 3.7) for details.

If setting up a separate Area for Duress Code and/or Panic alarms, and “Add System Inputs” has already been used in another Area, you may need to remove the Terminal Panic and Terminal Duress System Inputs from that Area before assigning them to the new Area.

- 5.1 Select the Area to Edit or create a new Area and program a name.
- 5.2 Program the Area options as required.
See Step 4 in “Alarm Processing” in the Basic Programming Guide.
- 5.3 Assign the Input/s to the Area using the appropriate Process Group for this type of alarm.
See notes above.
 The “Terminal Panic” System Inputs are S02 on each Terminal. i.e. T01:S02, T02:S02, T03:S02, etc.
 The “Terminal Duress” System Inputs are S05 on each Terminal. i.e. T01:S05, T02:S05, T03:S05, etc.

EVENT COUNTING (V3 OR LATER)

V3 firmware now provides special Event Counting options that provide the ability to:

- Display and/or edit Counter values.
- Generate Review Log and/or Report when count exceeds and/or drops below the Trigger value/s.
- Control Auxiliaries when count exceeds and/or drops below the Trigger value/s.

Installation Notes:

- 1) Mini Expander Modules must be used if Event Counting is utilized.
Mini Expander Module Zone Inputs 1 to 7 are the only Inputs that can be used for Event Counting.
i.e. Mxx : Z01 to Mxx : Z07. Note that Counting is not supported by Zone 8.
- 2) Count Inputs do not utilize End-Of-Line Resistors. The Counter will increment by 1 whenever an Open to Short transition occurs on the Input.

1. Program the Input/s used for Counting. [MENU 7, 0]

These Inputs must be connected to Mini Expander Module/s.

- 1.1 Program the Zone Input/s that the Count contact/s are connected to. i.e. Mxx : Z01 to Mxx : Z07
These will be used for monitoring "Trigger Count 1". (Will generate alarm state when count exceeds "Trigger Count 1" programmed in "Counters")
Select the Input to be programmed/edited and program a name and other options as described in "Alarm Processing". For Counting Inputs, all Input Options normally left set to No.
- 1.2 IF Two Trigger points need to be monitored, check the programming of the corresponding System Input/s.
i.e. Mxx : S02 (Zone 1 Extra) to Mxx : S08 (Zone 7 Extra)
These will be used for monitoring "Trigger Count 2". (Will generate alarm state when count exceeds "Trigger Count 2" programmed in "Counters")
Select the Input to be programmed/edited and check the Input options as described in "Alarm Processing".
System Input names are Pre-defined. For Counting Inputs, all Input Options normally left set to No.

2. Program the Mini Expander/s (8 Zone) [MENU 7, 2, 6]

The Mini Expander Modules provide the special features for Counters.

- Programmable Zone de-bounce for input devices that require faster processing. e.g. Count contacts.
 - Special Input processing options.
 - On-board non-volatile memory assigned to storing counter value/s.
- 2.1 Adjust the Mini Expander "Poll Time" and "LAN Priority" IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the "Poll Time" is displayed.
 - 2.2 Check that the Zone Type is set to the appropriate option for each Zone used for Counting.
 - Select "Counter" for Count Inputs. This modifies input operation for:
 - Two state monitoring (Open to Short transition for counting)
 - Zone / System Input Alarms when Trigger Counts exceeded.

- 2.3 Set the Zone De-bounce to an appropriate period for each Zone used.
A range of De-bounce settings from 5 milliSeconds to 1250 milliSeconds (1.25 Seconds) can be selected.
-De-bounce settings for Count contacts will vary. The de-bounce time must be:
- Short enough to detect every valid contact closure.
(i.e. shorter than the minimum period the contact remains closed).
 - Short enough to detect every separate occurrence
(i.e. shorter than the minimum time expected between contact closures)
 - As long as possible (within the above limitations) to ignore contact bounce and voltage spikes, etc.
- e.g. If contact closures are 250mS long and the minimum time between separate occurrences is 400mS, a Zone De-bounce of 200mS would provide reliable counting while still offering immunity to voltage spikes and contact bounce.
A setting of 300mS would cause count pulses to be missed, and a setting of 400mS or higher would sometimes cause two or more pulses to be counted as one.

3. Program the Counters. [MENU 7, 5, 8]

A Counter will need to be programmed for each Zone Input used for Counting.

- Select a new Counter and program a name. e.g. Water Usage (kL).
- Define the Mini Expander Zone Input used for this Counter. e.g. Mxx : Zxx.
- Select the "Counter Type".
-Select the "2 Trigger Points" type.
- Program "Trigger Count 1" IF a Zone Input is required to indicate the count has exceeded a specified value.
(The Mini Expander Zone Input will go into alarm when this trigger point is exceeded)
e.g. Average monthly Water Usage exceeded.
- Program "Trigger Count 2". IF indication of the counter exceeding a second Trigger Point is required.
(The Mini Expander System Input that corresponds with the Zone will go into alarm when this trigger point is exceeded)
e.g. Peak monthly Water Usage exceeded.
- Program the Counter Options. [. . 4 D]
-4 Digit display. Set to Yes if you only require a 4 Digit Count display. (0000 to 9999) Normally 8 digits.
-Display Counter. Set to Yes if the Counter is allowed to be displayed via "Read Count" in the Information Menu. [MENU, 1, 4]

4. Initialize the LAN

Following any programming changes to Mini Expanders, the LAN must be re-initialized.
If all modules are connected and operational, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. ("Secure LAN" Initializes the LAN and sets the Encryption)

5. Program the Process Group/s. [MENU 2, 4, 3]

You may need to program new Process Groups or edit existing Process Groups to define how the Zone Inputs and/or System Inputs used to monitor the 1st and 2nd Counter Trigger points are to be processed.

- Select the Process Group to be programmed/edited and program a name. e.g. Film Monitor
- Program the required "Input Type" options. [T A E X U P L S]
-Set the "A" (Alarm) option to Yes.

- 5.3 Program the required “Communications Reporting” options. [I T A R E X U S]
Typically the Isolate, Alarm and Restore options are set to Yes for Counter Zones.
- 5.4 IF reporting via Contact ID, you may program the Contact ID Event Code to be sent for Inputs with this Process Group assigned. If left at “000” a default Contact ID message will be sent.
See the Tables section for Contact ID Event Code details.
- 5.5 Program the Area Auxiliaries to activate. [T 1 2 3 4 I]
This will be required IF any Auxiliaries are to be activated by Counter Inputs.
-Set Alarm 2 Auxiliary to Yes IF you require the Auxiliary to be On while the Input is in Alarm and automatically turn Off when the Input Seals. e.g. To activate a Diary Message on the LCD Terminal/s.
-Set any other Alarm Auxiliary to Yes IF you require the Auxiliary to turn On when the Input goes into Alarm and turn Off by another mechanism. e.g. Area Off, etc.
- 5.6 IF the Counter alarms are to generate an LCD message that must be acknowledged, program the LCD Terminal message Types to generate. Typically Type 1 set to Yes.
IF these alarms are to be annunciated via other means (e.g. Diary messages), you may set all message types to No.

6. Program the Area/s for Counter monitoring. [MENU 7, 1]

Although not mandatory, it is recommended that a separate Area is programmed for Counter monitoring. This ensures that:

- a) There will be no conflict of Area Auxiliary requirements with other types of alarm functions.
 - b) The Area can be turned On and Off according to when Counter monitoring is required without affecting other alarm monitoring requirements.
- 6.1 Select an Area to program/edit and program a name. e.g. Water Monitoring. (If Area is dedicated to this purpose)
- 6.2 Program the Area Auxiliaries to activate.
-Alarm 2 Auxiliary. IF an Auxiliary is required to activate only while the Input/s are in the alarm state, then automatically turn Off when the Input/s are sealed.
-Alarm 1, 3 or 4 Auxiliary. IF an Auxiliary is required to activate in the normal manner.
- 6.3 Assign the Input/s (Counter Zone Inputs and/or System Inputs) to the Area using the appropriate Process Group for each Input assigned.

7. Check/Program Menu Groups. [MENU 2, 4, 1]

Before any User Types can View and/or adjust the Count value, access to the appropriate Menu Option/s must be enabled in their Menu Group.

- 7.1 Program/Edit the “Menu Options” in the relevant Menu Groups. [R A I T t . S C]
-Set the “R” option (Review/Information Menu) to Yes if Viewing Counters is allowed.
-Set the “C” option (Control Menu) to Yes if Adjusting Counters is allowed.
- 7.2 Program/Edit the “Sub Menu Options” in the relevant Menu Groups. [U T L G Z R A .]
-Set the “A” option (Adjust Counters) to Yes if Adjusting Counters is allowed.

8. Program Counter Reset options [MENU, 7, 5, 4]

It may be necessary to provide a function for Automatic or Manual Reset of one or more Counters. Calculated Auxiliary Functions can be programmed for this purpose.

This can be performed in a number of different ways. *(See table below)*

Depending on the method to be used, other functions will need to be programmed to produce the Auxiliary On/Off operation that will in turn be used in the Calculated Auxiliary to Reset the Counter.

- 4.1 Select a new Calculated Auxiliary to program.
- 4.2 Select the Calculated Auxiliary Action.
 - Event Count=0 +ON. The Specified Counter will be reset to 0 when the 1st Auxiliary turns On.
 - Event Count=0 -OFF. The Specified Counter will be reset to 0 when the 1st Auxiliary turns Off.
- 4.3 Define the "1st Auxiliary".
- 4.4 Define the "Counter" to Reset. Only a single Counter can be defined. A separate Calculated Auxiliary will need to be programmed for each Counter that requires a reset function.

The table below defines the additional function that will need to be programmed to produce the Auxiliary operation required.

Note that more than one method of activating the Auxiliary may be used.

e.g. A Diary may be programmed to turn the Auxiliary On for 1 minute at 00 : 01 AM on the 1st Day of every month to clear the Counter ready for the new month. The same Auxiliary may also be turned On for several seconds by a User with a Keyswitch or Home Auxiliary at any other time that they decide the Counter needs to be Reset.

Method of Control	Programming Required
User via PIN code.	Program a Home Auxiliary [MENU, 7, 5, 5] , plus Auxiliary Timer [MENU, 5, 5]
Automatic based on Time of Day / Day of Week.	Program a TimeZone [MENU, 5, 2] and select "Auxiliary On/Off Sec" Control function.
Automatic based on Day of Month / Day of Year.	Program a Diary [MENU, 5, 4] with the "Diary Auxiliary" assigned, plus Auxiliary Timer [MENU, 5, 5]
By a Keyswitch, Pushbutton, Input, etc.	Program a Function Zone [MENU, 7, 5, 3] utilizing the Auxiliary Control options, plus Auxiliary Timer [MENU, 5, 5].
Remotely via Touch tone telephone. (V3 or later)	Program Answer Call Comms Task [MENU, 7, 3, 1] and DTMF Control [MENU, 7, 3, 3] utilizing the Auxiliary Control options.
Remotely via P.C.	Program PCDirect or ACCEPT Comms Task [MENU, 7, 3, 1] , plus Auxiliary Timer [MENU, 5, 5].

HOLDUP / DURESS ALARM - DELAYED REPORTING (V2 OR LATER)

This feature enables special Input processing in Area/s designated as a “Holdup” Area.

Holdup processing uses a form of Pulse count processing. When a Holdup button (or Kick bar, Note clip, etc.) goes into alarm it will only activate local alarm processing and start the Area Pulse timer running. The alarm will not report until the Pulse timer expires, or another Holdup input goes into Alarm.

If the first Holdup input activation is a false alarm (i.e. Was accidentally triggered), Specified User Types can cancel the alarm altogether by entering their PIN code at an LCD Terminal.

The local alarm activation allows devices such as Cameras, CCTV, Alarm indicators, Bandit screens, etc. to be activated locally without sending an instant alarm report to a Central Monitoring Station. This allows the staff a short period of time (e.g. 60 seconds) to cancel the alarm if it was triggered accidentally, ensuring that patrols and police are not sent to attend false alarms.



1. Program the Input/s that the Holdup button/s are connected to. [MENU 7, 0]

- 1.1 Select the Input to be programmed/edited and program a name and other attributes as described in “Alarm Processing” in the Basic Programming Guide.

2. Mini Expanders (8 Zone) [MENU 7, 2, 6]

Mini Expander Modules provide several special Holdup input processing features.

- Programmable Zone de-bounce for input devices that require faster processing. e.g. Momentary pushbuttons.
- Special fast Auxiliary output activation option.
- Input processing options for special combined Holdup/Suspicion buttons and Suspicion only buttons.

IF Mini Expanders are used for Holdup inputs, program the Mini Expander options.

- 2.1 Adjust the Mini Expander “Poll Time” and “LAN Priority” IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the “Poll Time” is displayed.

- 2.2 Check that the Zone Type is set to the appropriate option for each Zone used.
Normal Zone / Counter / Holdup / Suspicion / Holdup+Suspicion

-Normal Zone. May be used for Holdup Inputs if no special Mini Expander Auxiliary output processing is required.

-Counter. Not relevant to Holdup processing.

-Holdup. Same as Normal Zone except that a Seal to Alarm transition on an enabled “Holdup” Zone will unconditionally turn on Auxiliary 1 on the same Module, and report “Mxx:X01 On” to the Control Module. This provides an Auxiliary output that is activated within several milliSeconds of the Alarm, meeting regulatory requirements for triggering devices such as Bandit screens.

-Suspicion. Provides a corresponding System input for additional processing on each of Zones 1 to 7.

Zone Input state: Same as normal Zone except that Short circuit Tamper state is regarded as a Seal.

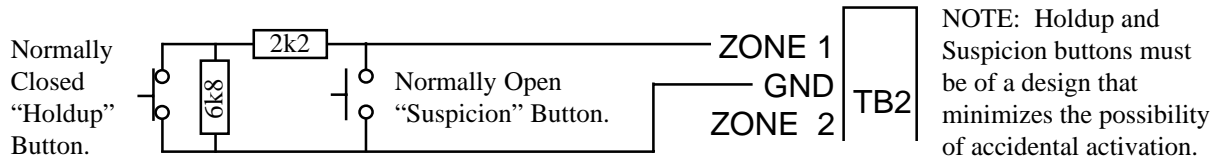
System Input state (“Zone ?? Extra”): Short circuit Tamper state is regarded as an Alarm state. All other states regarded as Sealed.

See Mini Expanders [MENU, 7, 2, 6] in the Programmer’s Reference section for more details.

-Holdup+Suspicion. Combines operation of “Holdup” and “Suspicion” Zone Types for special combination Holdup and Suspicion button assemblies where:

Seal (2k2)	= Seal.
Alarm (9k [2k2+6k8])	= Holdup.
Short Cct	= Suspicion.
Open Cct	= Tamper.

Holdup + Suspicion button circuit.



IMPORTANT NOTE: “Holdup + Suspicion” Zone Input states must operate as described above. The “Swap Seal & Alarm” option in Input Programming cannot be used.

- 2.3 Set the Zone De-bounce to an appropriate period for each Zone used. 300mS is typical for normal detectors (PIRs, Door Reeds, etc.) Faster de-bounce times may be required for fast acting momentary pushbutton switches, etc.

3. Initialize the LAN

Following any programming changes to Mini Expanders, the LAN must be re-initialized. If all modules are connected and operational, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

4. Program the Process Group. [MENU 2, 4, 3]

For this function, the Input/s should be assigned to a separate Area that is only used for Holdup processing. A dedicated Process Group can therefore be programmed.

- 4.1 Select the Process Group to be programmed/edited and program a name. e.g. Holdup buttons.
- 4.2 Program the required “Input Type” options. [T A E X U P L S]
- Set the “T” (Tamper) option to Yes.
 - Set the “A” (Alarm) option to Yes.
 - Set the “U” (PULSE count) option to Yes.
 - Set the “S” (Single Pulse) option to Yes IF only one Pulse per Zone input will be processed. This means that two “hits” on the same Holdup button will not cause alarm to be reported. i.e. Alarm will only be reported after Pulse timer expires, or when at least two different Inputs are triggered.
- 4.3 Program the required “Communications Reporting” options. [I T A R E X U S]
- Typically the **I**solate, **T**amper, **A**larm and **R**estore options are set to Yes.
- 4.4 IF reporting via Contact ID, you may program the Contact ID Event Code to be sent for Inputs with this Process Group assigned. If left at “000” a default message will be sent (140 for Zone Input Alarms). *Consult with the Central Monitoring Station and See Tables section for Contact ID Event Type details.*
- 4.5 Program the Area Auxiliaries to activate. [T 1 2 3 4 I]
- This will be required IF devices such as Cameras, Alarm indicators, Strobe, etc. are to be triggered.
- Set Alarm 2 Auxiliary to Yes IF you require the Auxiliary to be On while the Input is in Alarm and automatically turn Off when the Input Seals. (V3 or later)
 - Set any other Alarm Auxiliary to Yes IF you require the Auxiliary to turn On when the Input goes into Alarm and turn Off by another mechanism. e.g. Area Off, Auxiliary Timer, Calculated Auxiliary, etc.

4.6 IF Sirens are required:

- Program the Siren Tone selection for the Alarm and Tamper states.
- Set Siren Lockout to Yes IF Zones that caused the Siren activation are to auto isolate when the Siren timer expires.

Note that Sirens are often not used for Holdup alarms as they may cause the Bandit to panic, thereby putting the victims at risk.

4.7 Program the LCD Terminal message Types to generate. Typically Type 1 set to Yes.

5. Program the Holdup Area. [MENU 7, 1]

Owing to the special Area processing requirements, in most cases it is recommended that a separate dedicated Area is used for Holdup processing.

5.1 Create a new Area and program a name. It is recommended that a discreet Area name (e.g. Day Mode.) be used, as the Area name will be displayed on the LCD Terminal when the User is prompted to Enter their code to cancel an alarm.

5.2 IF Sirens are required:

- Select the required "Internal Siren Mode" and/or "External Siren Mode" option/s.
- Assign a Siren List to the Area.
- Program the Siren Time. (1 to 255 minutes)

Note that Sirens are often not used for Holdup alarms as they may cause the Bandit to panic, thereby putting the victims at risk.

5.3 Program the "Pulse Time".

This will be the time period that reporting of the Holdup alarm will be delayed to allow Users the opportunity to cancel the alarm.

Typically set to 60 seconds for Holdup processing.

5.4 Program the "Maximum Pulse Count".

This is the number of "hits" required on Pulse Count Zones to cancel the Pulse timer and report the alarm.

Typically set to 2 for Holdup processing.

5.5 Select the required "Open/Close Reporting" options and "Area Client Code" if required.

5.6 Program the "Area Options". [T H D N P]

- Set the "H" (Holdup Area) option to Yes. This modifies the Pulse Count operation for Holdup processing.
- Set the "P" (Pulse Count processing) option to No.

5.7 Program the Area Auxiliaries to activate.

- Entry Auxiliary. ("Pre-alarm" Auxiliary) Will turn On whenever the Pulse timer is started. (V3 or later) Can be used to activate Cameras and other local alarm warning devices as required.
- Alarm 1 to Alarm 4 Auxiliaries. Will turn On when the Holdup Alarm reports (Pulse timer expires or second Holdup input activated) if selected in the Process Group assigned to the Input in this Area.
- Tamper Auxiliary. Will turn On when an Input is in Tamper if selected in the Process Group assigned to the Input in this Area.

5.8 Assign the Input/s to the Area using the Process Group programmed for this function.

H

6. LCD Terminals [MENU 7, 2, 1]

At the start of the Pulse timer all Terminals with the “L” option (Level messages) set to Yes, will show a Holdup warning message “<Area Name> Enter Code”. This message will be displayed with the backlight on (without a beep) for the duration of the Pulse timer. This prompts the Users to enter their code to cancel the Holdup alarm if it was triggered accidentally.

- 6.1 Program the “Default Display message” options. [S M D L I A . O]
Ensure that the “L” (Level messages) option is set to Yes for all LCD Terminals where the “Enter Code” prompt is to be displayed.

7. Check/Program Menu Groups. [MENU 2, 4, 1]

Before any User Types can Cancel a Holdup Alarm, the function must be enabled in their Menu Group.

- 7.1 Check the “Menu Group Options” programming in the relevant Menu Groups. [R I D C S A M T]
Ensure that the “C” option (Cancel Holdup) is set to Yes.

HOME AUXILIARIES

Basic Programming

1. Program an Auxiliary List if required. [MENU 2, 3, 6]

IF you require the Home Auxiliary to control more than one Auxiliary, program an Auxiliary List. [MENU 2, 3, 6] (V2 or later)

- 1.1 Select an Auxiliary List number to program.
- 1.2 Program an Auxiliary List name.
- 1.3 Assign up to 8 Auxiliaries to the List.

2. Define the Home Auxiliaries. [MENU 7, 5, 5]

- 2.1 Select the Home Auxiliary Number to program.
- 2.2 Program the Name of the Home Auxiliary.
- 2.3 Define the Auxiliary OR Auxiliary List (V2 or later) that the Home Auxiliary will control.
When programming from the LCD Terminal the <ON> key will toggle between Auxiliary and Auxiliary List selection.
- 2.4 IF an Auxiliary List is selected, program the Auxiliary List control options. [O F o f]
 -ON when Home Aux On. Auxiliary List will be turned On when the Home Aux is turned On.
 -OFF when Home Aux On. Auxiliary List will be turned Off when the Home Aux is turned On.
 -on when Home Aux Off. Auxiliary List will be turned On when the Home Aux is turned Off.
 -off when Home Aux Off. Auxiliary List will be turned Off when the Home Aux is turned Off.
- 2.5 Define which Type/s the Home Auxiliary will belong to. Types are used to determine which Home Auxiliaries each User Type will be allowed to control via the Menu when they log on to an LCD Terminal and select Home Auxiliary Control. [MENU, 9, 1]
 There are 8 Home Auxiliary Types. At least one type must be defined. (Typically Type 1 unless you need to define different Home Auxiliaries to control for different User Types)
- 2.6 Program the Home Auxiliary options required. [T S]
 -Toggle from keypad. The Home Auxiliary can be controlled from specified LCD Terminals without the User logging on to the Terminal. (Using <RIGHT> arrow key)
 -SMS Control. The Home Auxiliary can be controlled remotely using the Short Message Service via the GSM modem option. (Available future version)

3. Check/Program Menu Groups. [MENU 2, 4, 1]

Before any User Types can control Home Auxiliaries via the Menu (MENU, 9, 1), access to the Control Menu must be allowed in their Menu Group.

- 3.1 Check the “Menu Options” programming in the relevant Menu Groups. [R A I T t . S C]
 Ensure that the “C” option (Control Menu) is set to Yes.

4. Check/Program User Types. [MENU 2, 2,]

Any User Types that are allowed to control Home Auxiliaries via the Menu must have the appropriate Home Auxiliary Types defined.

- 4.1 Check the “Home Auxiliary Types” programming in the relevant User Types.
Ensure that the required Home Auxiliary Types are set to Yes. (Typically Type 1; unless you need to define different Home Auxiliaries to control for different User Types)

5. Check/Program LCD Terminals. [MENU 7, 2, 1] (V3 or later)

LCD Terminals that are allowed to be used for Home Auxiliary Control without the User logging on to the Terminal (“Toggle from keypad” option) must have the Home Auxiliary Control option enabled.

Note: Prior to V3, any LCD Terminal can be used to control Home Auxiliaries that have the “Toggle from keypad” option enabled.

- 5.1 Check the “Logged Off” options for the relevant LCD Terminals. [A T L R H C]
Ensure that the “H” option (HHome Auxiliary Control) is set to Yes.

Control of Home Auxiliaries by Inputs

IF you need an Input (Zone Input or System Input) to control a Home Auxiliary, the following additional programming is necessary. Input control of Home Auxiliaries can be in addition to, or in place of User Control.

e.g. External lighting may be controlled by a User at an LCD Terminal and also by a push button switch and/or automatically by a light detector.

If User Control of Home Auxiliaries is not required at all in the system, ignore steps 3, 4 and 5.

6. Program the Input/s that are required to control Home Auxiliaries. [MENU 7, 0]

- 6.1 Select the Input to be programmed/edited and program a name and other attributes as described in “Alarm Processing”.
- 6.2 Program the Home Auxiliary number that you require the Input to control.

7. Check/Program the Process Group Home Auxiliary Control options. [MENU 2, 4, 3]

If the Inputs are only to be used for Home Auxiliary Control, or are assigned to a separate Area that is only used for this function, a dedicated Process Group can be programmed for each type of control required. e.g. One Process Group may be programmed to provide On/Off control on Alarm/Seal, while another may be required to Toggle the Home Aux. state on Alarm. (Recommended)

You may need to edit existing Process Groups if the Inputs are already used for other monitoring and/or control functions and you are not using a separate Area for this function.

- 7.1 Select the Process Group to be programmed/edited and program a name and other attributes as described in “Alarm Processing” if required.
- 7.2 Ensure that the required “Input Type” options are programmed. [T A E X U P L S]
 - Ensure the “T” (Tamper) option is set to Yes if the Home Auxiliary is to activated on a Tamper state.
 - Ensure the “A” (Alarm) option is set to Yes if the Home Auxiliary is to activated on an Alarm state.
- 7.3 Program the required Home Auxiliary Actions. Select one of the four Home Auxiliary Actions for each of the three possible Input states.
 - Home Aux action on Seal.
 - Home Aux action on Alarm.
 - Home Aux action on Tamper.

The actions available are: None / Turn On / Turn Off / Toggle.
Toggle is used to change the state of the Home Auxiliary from it’s current state to the opposite state.
- e.g. For Momentary Pushbuttons wired with the normal End-Of-Line Resistor network for Seal & Alarm states:
 - Set “Home Aux on Alarm” to “Toggle” for Push On/Push Off control.

For Two position Toggle switches wired with the normal End-of-Line Resistor network for Seal & Alarm states:

 - Set “Home Aux on Alarm” to “Turn On”.
 - Set “Home Aux on Seal” to “Turn Off”.
- 7.4 IF the Home Auxiliary action needs to be a timed action (e.g. Turn On for 20 minutes), program the appropriate Home Auxiliary Options. [O M]
 - Override Time. Set to Yes if the timer associated with this function will override any other timer currently running on the Auxiliary. Set to No if other timers take precedence and are allowed to time-out.
 - Minute Timer.
 - Set to No if the time period is to be specified in Seconds.
 - Set to Yes if the time period is to be specified in Minutes.
- 7.5 Program the Home Auxiliary Timer period in seconds or minutes as specified in the previous option. To disable the timer option, ensure the time period is set to “000”.

8. Assign the Input/s to the Area/s. [MENU 7, 1]

Inputs that control Home Auxiliaries must be assigned to an Area, and the Area turned On for the function to operate.

- 8.1 Select the Area that the Input/s are to be assigned to.
You may choose an existing Area,
OR create a new Area just for Inputs that are used to control Home Auxiliaries. If you create a new Area, first program a name and any other attributes required as described in “Alarm Processing”.
- 8.2 Assign the Input/s to the Area using the appropriate Process Group/s for each Input. For each Input choose the Process Group that provides the required Home Auxiliary control actions and options.

9. Program options for Auxiliary States on System Reset.

In the rare event of a system reset, all Auxiliaries will normally turn Off until turned On again by a new Event. When Auxiliaries are used for Building Automation purposes it is often preferable to maintain those Auxiliaries in the state they were in before the reset occurred.

- 9.1 Program the “Panel Options” in the General Systems Options Menu. **[MENU, 7, 5, 1]**
[N D F R f + I .]
IF you require the states of some Auxiliaries to be maintained after a system reset, Set the “N” option (No Aux Off on Reset), to Yes.
- 9.2 IF you set the above option to Yes, for each Auxiliary used in the system, define whether this rule will be followed.
e.g. Auxiliaries controlling lighting, etc. would normally be required to be maintained, while it may be more appropriate for Auxiliaries controlling locks on external doors to be turned Off on a system reset.

Select Auxiliary Timer Programming. **[MENU, 5, 5]**

Set the “Off on Reset” option to No for Auxiliaries that will be maintained on a system Reset.

Set the “Off on Reset” option to Yes (default setting) for Auxiliaries that will turn Off on a system Reset.

LATCHED ALARMS (V3 OR LATER)

This feature enables special processing for Inputs designated as a “Latching” Input via their Process Group.

Normally, Alarm messages are generated as part of Area Process Group processing and broadcast to selected terminals. (Dependent on the “Alarm Message Types” options selected in Process Group programming and LCD Terminal programming.)

The message may then be read and acknowledged by an authorised User upon PIN code entry. Only one alarm is kept per area, with the last Input causing an alarm being displayed.

The Latched Input concept can be used in addition to, or as an alternative to, the above. A Process Group option, (L)atched Alarm, allows an Input alarm to be latched. Alarm processing is identical to normal operation, except that when an alarm occurs on an Input, a flag is set to indicate that the input has had a latched alarm. A level message is generated and displayed on relevant terminals.

All inputs that have had a latched alarm may be inspected on specified LCD Terminals by pressing the UP/DOWN arrow keys without PIN code entry, or via a PIN code entry and the panel status menu (MENU, 1, 5).

The input can only report a single alarm, tamper or isolate until the latch input has been reset via a PIN code entry.

Latched Input Alarms are cleared whenever a PIN code is entered by a User with a Menu Group that has the (R)eset latched alarms option set to Yes. The latched input can only be cleared if the input is sealed.

Additionally, Latched alarms do not report a Restore until the latch is cleared via a PIN code entry.

When an Area is turned off, all Latched Inputs are cleared unconditionally and a Restore will be generated if the following conditions are met:

1. The input is currently not isolated.
2. The last report was not a Restore.
3. The Input is currently sealed.
4. Restore reporting is enabled.

Rule 3 is removed if the (U)nsealed restore option is set to Yes in the Process Group.

1. Program the Input/s that are to be processed as Latched Alarms. [MENU 7, 0]

- 1.1 Select the Input to be programmed/edited and program a name and other attributes as described in “Alarm Processing” in the Basic Programming Guide.

2. Program the Process Group. [MENU 2, 4, 3]

For this function, one or more dedicated Process Groups should be programmed.

- 2.1 Select a new Process Group and program a name. e.g. Latching Alarms.
- 2.2 Program the required “Input Type” options. [T A E X U P L S]
 - Set the “T” (Tamper) option to Yes.
 - Set the “A” (Alarm) option to Yes.
 - Set the “L” (Latch Input) option to Yes.
- 2.3 Program the required “Communications Reporting” options. [I T A R E X U S]

Typically the Isolate, Tamper, Alarm and Restore options are set to Yes.
- 2.4 IF reporting via Contact ID, you may program the Contact ID Event Code to be sent for Inputs with this Process Group assigned. If left at “000” a default message will be sent (140 for Zone Input Alarms). *Consult with the Central Monitoring Station and See Tables section for Contact ID Event Type details.*
- 2.5 Program the Area Auxiliaries to activate. [T 1 2 3 4 I]

This will be required IF devices such as Cameras, Alarm indicators, Strobe, etc. are to be triggered.

- Set Alarm 2 Auxiliary to Yes IF you require the Auxiliary to be On while the Input is in Alarm and automatically turn Off when the Input Seals. (V3 or later)
- Set any other Alarm Auxiliary to Yes IF you require the Auxiliary to turn On when the Input goes into Alarm and turn Off by another mechanism. e.g. Area Off, Auxiliary Timer, Calculated Auxiliary, etc.

2.6 IF Sirens are required:

- Program the Siren Tone selection for the Alarm and Tamper states.
- Set Siren Lockout to Yes IF Zones that caused the Siren activation are to auto isolate when the Siren timer expires.

2.7 Details of Latched alarms are normally viewed by pressing the <DOWN ARROW> key when the “Input Alarms are Latched” message is displayed. (While not logged on) The message is then cleared by logging on. Note that the message can only be cleared if the Latched Inputs are Sealed.

Latched alarms can also be viewed and acknowledged in the normal manner by setting at least one of the LCD Terminal Alarm Message Types to Yes. (Typically Type 1 is set to Yes) *See Step 4.1 below.*

3. Program the Area. [MENU 7, 1]

- 3.1 Select the Area to program/edit. If a new Area is selected, program a name.
- 3.2 IF Sirens are required:
- Select the required “Internal Siren Mode” and/or “External Siren Mode” option/s.
 - Assign a Siren List to the Area.
 - Program the Siren Time. (1 to 255 minutes)
- 3.3 Select the required “Open/Close Reporting” options and “Area Client Code” if required.
- 3.4 Program the Area Auxiliaries to activate as required.
- 3.5 Assign the Input/s to the Area using the Process Group programmed for this function.

4. LCD Terminals [MENU 7, 2, 1]

When a Latched Alarm is generated, all Terminals with the “L” option (Level messages) set to Yes, will show a message “Input Alarms are Latched”. This prompts the Users to view the alarms by using the UP/DOWN arrow keys. Users can then enter their PIN code to acknowledge the Latched Alarms if their Menu Group allows this operation..

4.1 Program the “Alarm Message Type” options. [1 2 3 4 5 6 7 8]

Generally, it is not necessary for LCD Terminals to receive individual messages for Latched Alarms. Setting the Alarm Message Types to No for Message Types generated by Latched Alarms will not affect the operation described above that already allows each individual Latched Alarm to be viewed before acknowledging.

IF alarm messages for Latched Alarms are required to be sent to LCD Terminals, ensure that the same Alarm Message Type (or Types) assigned in the Process Group/s are set to Yes for all LCD Terminals where the Latched Alarm messages are to be displayed.

4.2 Program the “Default Display message” options. [S M D L I A . O]

Ensure that the “L” (Level messages) option is set to Yes for all LCD Terminals where the “Input Alarms are Latched” Level message is to be displayed.

4.3 Program the “Logged Off” options. [A T L R H C . .]

Ensure that the “L” (Latched Alarms) option is set to Yes for all LCD Terminals where Latched Alarms can be displayed via the Up and Down Arrow Keys without logging on to the Terminal.

5. Check/Program Menu Groups. [MENU 2, 4, 1]

Before any User Types can Acknowledge a Latched Alarm, the function must be enabled in their Menu Group.

- 5.1 Check the “Menu Group Other Options” programming in the relevant Menu Groups. [R H O]
- Ensure that the “R” option (Reset Latched Alarms) is set to Yes.

LIFT CONTROL WITH FLOOR BUTTON FEEDBACK (V3 OR LATER)

Lift control logic can be used to control Floor security for a number of Lift Cars. The security of up to 64 floors can be controlled for a maximum of 32 Lift Cars depending on interface method used, memory size, memory configuration and system traffic.

There are three methods of Lift Control available. All methods use a standard Reader Module mounted in each Lift Car for interface to the Reader. An optional LCD Terminal may also be installed in each Lift Car if Card+PIN is required for high security applications:

- 1) Floor Button Enable via simple Relay interface.
-Expander Module/s are installed in the Lift motor room to provide Auxiliary Outputs to enable/disable each Floor selection button. (The Auxiliaries control Relays that provide the interface to the Lift Controller.)

See “Basic Lift Programming” in the Basic Programming Guide section.

- 2) Floor Selection via Button Feedback. (V3 or later)
-Universal Expander Module/s with Lift Interface board/s fitted are installed in the Lift motor room. These provide an Isolated Zone Input and Relay output that are effectively connected in series with each Floor selection button.

-When a User presents a valid card at the reader in the Lift Car, the system monitors the floor selection buttons for a fixed period of time. When a button is pressed, the system checks the floor against the User's permissions (“Lift Car List”, “Floor List”, etc.), and if allowed, pulses the Relay to select that Floor, and cancels the button time.

-Only one floor button will be accepted each time a valid card is presented. Since the floor selection buttons are monitored, details of the User, Lift Car and Floor selected are saved to Review.

- 3) High Level Interface via RS232 UART Port. (V3 or later)
-A single RS232 connection is established between a UART Port fitted to the Control Module, and a High Level Elevator Management System (EMS). This allows security mask information to be transferred to the EMS without the need for Expander modules to provide Auxiliaries and Zones for Button Inputs. At present the OTIS protocol is supported with logging of lift buttons.

The High Level interface drastically reduces the amount of cabling and labour associated with the installation which can also lead to a greater level of reliability.

See “Lift Control with High Level Interface” in the Applications Programming Guide section.

L

Installation Notes:

- 1) **UPGRADING FIRMWARE. CAUTION:** If a Control Module is being upgraded from an earlier version firmware to Version 3 for Lift Control features, the Memory will need to be re-configured as new Memory structures have been added.
- 2) **INDUSTRY REGULATIONS.** State and/or National Building regulations may govern the type of Lift control allowed on any particular site.
- 3) **TYPE OF INTERFACE.** The Lift Controller may already allow for security control of the floor selection buttons. Check if this is the case, and if so, ascertain the type of interface required.
- 4) **INTERFACE ELECTRICAL SPECIFICATION.** Check that the button voltage and switched current value are within the specifications of the interface that you propose to use. i.e. Relays, Lift Interface board, etc.
- 5) **READER MODULE INSTALLATION.**
 - A) **IN LIFT CAR (RECOMMENDED).** The Reader, along with a standard Reader Module and Power Supply, are normally installed in the Lift Car. i.e. Allow one Reader Module per Lift Car.
The Reader Module is connected to the LAN via twisted pair cable, preferably shielded, up the Lift shaft. It is recommended that a LAN Isolator is installed in the Lift motor room to isolate the LAN cable in the Lift shaft from the rest of the LAN. One LAN Isolator will provide isolated LAN branches for two Lifts.
 - B) **DUAL READERS.** In some circumstances, where two Floor Button panels are provided in the Lift Car (One each side of the Door), two Readers may also be required. (i.e. One Reader beside each Floor Button panel)
The following points must be noted:
 - If a 2 Door Access Module is used, only one of the two Readers can be processed at a time. i.e. While the Lift buttons are enabled after a Valid Card read, the Readers will not accept cards.
 - If 2 Single Door Access Modules are used, a Card presentation on either Reader will remain valid until;
 - i) A Floor selection button in the Users Floor List is pressed, or
 - ii) The button time expires, or
 - iii) A Card is presented at the other Reader.

i.e. If 2 Users both present their Card at a different Reader in close succession, only the 2nd Card read will be valid for Floor selection. The other User will have to present their Card again.
 - C) **IN LIFT MOTOR ROOM.** In some circumstances, the Reader Module can be installed in the Lift motor room, and provide the interface to Readers in two Lift Cars. The following points must be noted:
 - The total length of trailing cable from the Reader to the Reader Module must be within the maximum cable length allowed as specified by the Reader manufacturer.
 - The cable from the Reader to the Reader Module must be as specified by the Reader manufacturer. i.e. shielded data cable and not twisted pairs.
 - Only one of the two Readers can be processed at a time. i.e. While Lift buttons are enabled in one Lift Car, the Reader in the other Lift Car will not accept cards.
- 6) When Floor button monitoring is required, Universal Expander Modules in conjunction with Lift interface boards must be used. The Zones used for button feedback will be the Zones that correspond to the Auxiliary numbers used for floor button enables. e.g. If Auxiliaries B05:X09 (1st Floor Auxiliary) to B05:X16 are used for a particular Lift Car, then Zone Inputs B05:Z09 to B05:Z16 must be used for button feedback.
- 7) Expander Type must be chosen to support the number of Floors required.
 - a) Mini Expander if up to 8 floors and no button feedback required.
 - b) Universal Expander configured as "E" Type if up to 16 floors.
 - c) Universal Expander configured as "B" Type if up to 32 floors.
 - Where less than 32 Floors are controlled, the Floor Auxiliaries (and Button Sense Inputs if required) must all reside on the same Expander Module.
 - Where more than 32 Floors are controlled, the Floor Auxiliaries (and Button Sense Inputs if required) must all reside on two sequentially numbered "B" Type Universal Expander Modules.
 - Expander Modules will be installed with the Lift Control equipment in the Lift motor room.
 - If Button feedback is used, set Universal Expanders to 40mS (fast) Zone De-bounce. (SW1 switch 2 to ON)

- 8) When Lift Interface boards are used, a Button Sense/Relay circuit on the Interface is connected in series with each of the floor selection buttons and not via separate relays. The actual button voltage is used to sense what floor has been selected and then the Lift Interface board will allow this signal to connect through to the Lift Controller if a valid card has been presented.

Operation with Button feedback.

The sequence below shows the logic that the system applies in determining what floor buttons to enable for a particular lift car when a card is presented at a reader.

- Process card according to reader format & mode.
- Check card exists in system. (Check Issue # if required)
- Check if card has an expiry date that has expired.
- Check if card is cancelled (User type = 0).
- Adjust user type by time-zone if required.
- Check if time-zone has cancelled the user type.
- Turn on valid code Aux for this user type if programmed.
- Ensure that a lift car has been assigned to this reader.
- Check that lift car access group is not zero.
- Adjust access group by time-zone if required.
- Check that lift car access group not cancelled by a time-zone.
- Check that a lift car list exists for this user type.
- Adjust lift car list by time-zone if required.
- Check that lift car list not cancelled by a time-zone.
- If need dual user & no dual code over-ride & allowed to provide 1st user, then go get 2nd user.
- If need pin then wait for this users pin to be entered.
- Cancel user type if required ("Card Cancel" option)
- Check that user type floor list is not zero.
- Adjust user type floor list by time-zone if required
- Set up required floor button list based on what floors are in the user type floor list. If time-zone disabled then no buttons.
- If lift car floor list is defined then adjust for time-zone if required and remove any buttons from the button list for any floors not in the lift car floor list. If time-zone disabled then no buttons.
- If a user type area off list is defined (non zero) then adjust area list for time-zone if required and for every floor in this lift car that has an area assigned to it that is not in the area off list remove the button from the button list. If the floor has no assigned area then ignore.
- Turn on Reader Module "Valid" auxiliary for the button on time. (If user type has (d)isabled flag set then used disabled button time.

Every time a lift button is pushed (zone seals) then:

- If relevant floor is in free access then save a review message and ensure auxiliary is still off.
- If relevant floor is secure and the valid auxiliary is still on and the last user is allowed this floor, then save a review message, and turn off the relevant floor auxiliary and turn off the valid auxiliary early. If the user was not allowed access or the valid auxiliary wasn't on, then save a review message and turn on the error auxiliary.

Every time a lift button is released (zone alarms) then set the relevant floor auxiliary back to its secure/free access state.

Programming

1. Note Lift details.

- 1.1 Plan your Lift programming requirements. For each Lift Car note the:
- Lift Car number to be used. (LC002, LC002, etc.)
 - Reader Module being used. (R001, R002, etc.)
 - Reader Module Port that the Reader for each Lift Car is connected to. (Rdr 1 or Rdr 2)
 - Any LCD Terminal/s used for Card + PIN access in Lift Cars.
 - Any restrictions on floors accessed by particular Lift Cars.
 - Any Areas to be assigned to floors. IF required for prevention of entry into Areas that are turned On.
 - The Expander Module Auxiliaries to be used for floor enable for each Lift Car. This will also determine the Zone Inputs used for button feedback as the Zone number corresponds with the Auxiliary used for the particular floor. e.g. If B05:X12 controls floor 5, then B05:Z12 is used for floor button 5.
- Note: Where a smaller number of floors are used, the same Expander can be used for more than one Lift Car, although this will compromise redundancy.

The table at the end of this section may be copied and used to record this information before programming is commenced.

2. Program the Reader Module/s [MENU 7, 2, 4]

Program the attributes required for each Reader Module used for Lift Control.

- 2.1 Adjust the Reader Module "Poll Time" and "LAN Priority" IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the "Poll Time" is displayed.
- 2.2 Check that the Reader Module Purpose is set to "Lift Control".
- 2.3 Assign the 1st Lift to be controlled by this Reader Module.
- 2.4 IF the Reader Module is to be used in "2 Door/Lift" Mode;
Assign the 2nd Lift to be controlled by this Reader Module. (NOT RECOMMENDED)
- 2.5 Program the Reader Module Options. [C E X F W N T 2]
Comms (LAN) Fail Options:
Not relevant to Lift Control.
Other Options:
-No Valid/Invalid LED control. Set to Yes IF the LED Auxiliaries need to be used for other purposes.
-2 Door/Lift Mode. Set to Yes IF Reader Module is to be used to control 2 Lift Cars.
- 2.6 Program the parameters for the first Reader (Rdr 1) connected to the Reader Module.
- Reader location. Set to Outside (the Reader is used to Enter).
 - Reader Format. Choose the correct Card data format.
 - Reader Mode. Credit Card/Direct Entry/Site Code/Any Card
 - Keypad for PIN code Entry. IF Lift requires Card + PIN for floor access.
 - Module for PINs. IF "LCD Terminal" is selected as the Keypad for PIN in the previous option, program the module number (Txxx) of the LCD Terminal to be used.
- 2.7 Program the parameters for second Reader (Rdr 2) connected to the Reader Module.
Note: In 2 Door/Lift Mode, Rdr 1 controls the 1st Lift and Rdr 2 controls the 2nd Lift.
Options are the same as those for the first Reader.

3. Initialize the LAN

Whenever any programming is done that effects Module parameters, (especially Reader Modules, LCD Terminals and Mini Expanders) the LAN must be initialized to ensure that all changes take effect.

If all modules are connected and operational, and the system is complete, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

4. Program Access Groups. [MENU, 2, 4, 2]

- 4.1 It is recommended that one or more new Access Groups are programmed to define Lift Control requirements.
- 4.2 Program a name for any new Access Groups that you create.
- 4.3 IF it is necessary to restrict the valid period of the Access Group, or provide an alternate set of Access Group permissions for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the Access Group is Valid.
e.g. If “Card Only” operation is adequate during the day, but “Card+PIN” is required after hours.
- 4.4 If a TimeZone is assigned, you may then specify an Alternate Access Group that will be used when the TimeZone specified in the previous step is Invalid.
- 4.5 Program the Entry Parameters required.
 - Entry Mode. Card only / Card AND PIN. (“PIN only” & “PIN or Card” are not relevant for Lift Control)
 - Entry Options. [B L A D]
 - Dual User. Set to Yes IF two User Codes / Cards are required to allow entry.
- 4.6 Program the Exit Parameters required.
 - Exit Mode. Card only / Card AND PIN. (“PIN only” & “PIN or Card” are not relevant for Lift Control)
 - Exit Options. [B L A D]
 - Dual User. Set to Yes IF two User Codes / Cards are required to allow exit.

5. Program Floor Lists [MENU 2, 3, 4]

IF any Lift Cars are to be restricted to servicing only specific floors, Floor List/s must be programmed to define the floors allowed for each Lift Car.

- 5.1 Determine the Floor/s that different Lift Cars will be restricted to.
From this information you can program the **Floor Lists** required [MENU 2, 3, 4].
- 5.2 IF it is necessary to restrict the valid period of the Floor List, or provide an alternate List of Floors for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the Floor List is Valid.
- 5.3 If a TimeZone is assigned, you may then specify an Alternate Floor List that will be used when the TimeZone specified in the previous step is Invalid.
- 5.4 Assign the Floor/s to each Floor List. A Floor List can support any number of Floors up to the maximum number of Floors allowed in the Memory configuration.

6. Define the Button Area/s. [MENU 7, 1]

IF button feedback is used, a separate Area must be programmed for every Lift Car to be controlled.

- 6.1 Select a new Area to program.
- 6.2 Program an Area Name. e.g. Lift 1 buttons, Lift 2 buttons, etc.

7. Program the Lifts [MENU, 7, 6]

Each Lift Car to be controlled is individually programmed.

- 7.1 Select the Lift Car number to program.
- 7.2 Assign a suitable "Access Group". This will determine the way that the Lift is controlled.
- 7.3 IF the Lift Car is to be restricted to servicing only specific floors, assign a "Floor List".
- 7.4 Define the total "Number of Floors" to be controlled in this Lift Car.
- 7.5 Define the 1st Floor Auxiliary that will be used to control Floors for this Lift Car.
Floor button enable Auxiliaries start at this Auxiliary and run in sequence to the number of floors specified in the previous step.
If the required number of Auxiliaries overruns the first module, the sequence automatically rolls over to Auxiliary 1 of the next module of the same type. (Only recommended if control of more than 32 floors is required.)
- 7.6 Assign the "Valid Auxiliary" for the Lift.
This Auxiliary is turned On for the "button time" and must be programmed if button feedback is used.
The Auxiliary specified may be a Reader LED control Auxiliary (e.g. Rxx:X02) or just a phantom Auxiliary. (e.g. C01:X11 to C01:X32)
- 7.7 Assign the "Error Auxiliary" for the Lift.
This Auxiliary is turned On if an illegal floor selection button is pushed. If turned On, the Error Auxiliary needs to be turned Off again by another mechanism. e.g. Auxiliary Timer.
- 7.8 Assign the "Button Area" for the Lift.
When button feedback is used, the "Button Area" must be defined for each Lift.
- 7.9 Program the "Button Time". This is the maximum time the floor buttons will remain active for a normal User. Typically set to about 5 seconds.
- 7.10 Program the "Disabled Time". This is the maximum time the floor buttons will remain active for a "disabled" User. i.e. User Type with the "Disabled" option set to Yes.
Note: Disabled time does not operate with High Level Interface.
- 7.11 Program the number of "Unused Floors". If a Lift Car starts at any Floor other than the 1st Floor that is controlled by the system, program the number of floors to be skipped. e.g. If the Lift Car starts at Floor15, then this option should be set to 14.
This allows the unused Auxiliaries and Zones associated with this Lift Car to be used for other purposes.
- 7.12 Assign the "Floor Areas" if required. Normally left at "None" unless User access is to be restricted based on the Area status and the User Type's Area Off permissions.

8. Assign Floor button Zone Inputs to the “Button Area/s.

IF Button feedback is used, the Zone Inputs used for monitoring the Button state, **must** be assigned to their appropriate “Button Area” and the Area always turned ON 24hrs. A separate Area must be used for every Lift Car to be controlled.

The Zones to be assigned will be the Zones that correspond to the Auxiliary numbers used for floor button enables.

e.g. If Auxiliaries B05:X09 (1st Floor Auxiliary) to B05:X16 are used for a particular Lift Car, then Zone Inputs B05:Z09 to B05:Z16 must be used for button feedback and assigned to the Area designated as the “Button Area” for this Lift Car.

8.1 Program the Zone Inputs. [MENU, 7, 0]

-Program the Input names. e.g. Lift 1. Floor button 3.

-Program any of the Input Attributes required for these inputs. [s C X S R A N T]

Set the “R” (No Review) option to Yes, so that changes of state on these Zones are not saved to Review.

8.2 A new Process Group must be programmed for monitoring Floor buttons. [MENU, 2, 4, 3]

-Program a name. e.g. Button monitor.

-Input Type options. [T A E X U P L S] Set “A” (Alarm) option to Yes. All other options to No.

-All Comms options to No.

-All Area Auxiliaries to No.

-All Siren options disabled.

-All Message Types to No.

-Extra Options. [R N L] Set “L” (Lift buttons) option to Yes. All other options to No.

8.3 Assign the Zone Inputs to the appropriate Button Area that will be permanently On. [MENU, 7, 1]

Use the Area/s defined in Step 6 specifically for this purpose.

When assigning the Inputs use the Process Group programmed in the previous step.

9. Program the General System Options. [MENU, 7, 5, 1]**9.1 Program the “Panel Options”. [N D F R f + I .]**

-Set the “F” option (Fast zone processing) to Yes when Button feedback is used.

9.2 “Reader for User Programming”. Reader Module #001 is normally used for Testing Cards, Enrolling User’s Cards & programming Backup Cards.

IF another Reader Module is to be used for these purposes, program the Reader Module number in the “Reader for User Programming” option in the General System Options.

e.g. Reader Module #001 may be used in a Lift Car making it inconvenient to use for testing and enrolling Cards etc.

Note: If Door Access Control is already programmed in the system, this option may already be programmed.

10. Program the Site Code/s. [MENU, 2, 5]

- 10.1 IF cards are to be entered into the system using the Site Code method, at least one Site Code will need to be programmed. The Site Code method simplifies card programming, allowing cards to be entered without the need to present the card at a Reader. Site Code method can be used with Inner Range Magnetic Swipe Cards, or Wiegand Cards/ID Tokens with a format in which the system supports Site Codes. e.g. 26 Bit Wiegand.

If Door Access Control is already programmed in the system, the Site Code/s may already be programmed.

- 10.2 Program the Site Code in Hex or Decimal format.
- 10.3 Program a Card Offset if required.
- 10.4 Set "Site Code Present" to Yes.

11. Program Access Alarm processing

When Lift Access Control is implemented in a system additional System Inputs are available to be processed and/or monitored as required. e.g.

Relevant Reader Module System Inputs:

Cabinet Tamper, Low Volts, Illegal Card and LAN Comms.

Relevant LCD Terminal System Inputs:

Cabinet Tamper, Panic, Operator Duress, Too many tries and LAN Comms.

- 11.1 Identify the Lift Access Control System Inputs that you wish to process and/or monitor in some way.
- 11.2 Return to "Alarm Processing"; Steps 1 (Program the Inputs), 2 (Check/Program Process Group Requirements), and 4 (Program the Areas) to add the System Inputs and any additional Zone Inputs on Reader Modules and LCD Terminals used for Access Control.

NOTE: You may choose to simply use the "Add System Inputs" default feature in Area Programming to add the Access Control System Inputs to an Area if this fulfils system monitoring requirements.

12. Securing the Floors

When Lift Access Control operation is being commissioned the required Floors must be placed on security by a Floor Control operation. This can be done via "Lift Control" in the Control Menu [MENU, 9, 4]

- 12.1 Select "Lift Control" in the Control Menu. [MENU, 9, 4]
- 12.2 Enter the Lift Car number to control. ("00" = All Lifts)
- 12.3 Enter the Floor number to control. ("00" = All Floors)
- 12.4 Press the "7" (S) key to Secure the Floor/s. (The "1" (A) key is used to Access Floor/s)

13. Automated Free Access and Securing of Floor/s

It may be necessary to have a facility to provide automatic “Free Access” and/or “Securing” of Floors.

This can be a useful feature in sites where free access is required on specific floors during specified times and/or under certain circumstances.

IMPORTANT NOTE:

When powered up, the system will normally turn Off all Floor Auxiliaries, thereby setting all floors to free access. This means that in the rare event of the Control Module being Reset (e.g. Due to having power and battery removed then restored), all floors for all Lift Cars will be placed in free access.

To re-secure the required floors, the relevant Floor Auxiliaries must be turned On by a Floor Control operation.

This can be done:

- Manually via the Control Menu (MENU, 9, 4) as described in Step 13. (Requires a User operation)
- Automatically via a Calculated Auxiliary “Secure on +ON” or “Secure on -OFF” action triggered by an Auxiliary that is always turned On after a system Reset. To obtain an Auxiliary that turns On after a System Reset, assign a “Close Auxiliary” to an Area that is always On 24Hrs. This could be one of the Button Areas if Button feedback is used in the system, or a “System” Area. (Any Area that was On will automatically be turned On again after a Control Module is Reset)

- 14.1 At Specific Times and/or for Specified period/s of Time. Program TimeZone/s. [MENU, 5, 2]
Refer to the “TimeZone Function” options under TimeZone programming in the Programmer’s Reference section:
- Lift Car & Floor*
 - Lift Car & Floor List*
 - Lift Car List and Floor*
 - Lift Car List & Floor List*

- 14.2 As a result of any event in the system that can control an Auxiliary.
e.g. Keyswitch, Area On/Off, Alarm, etc.
Program Calculated Auxiliaries. [MENU, 7, 5, 4]
Refer to the “Calculated Auxiliary Action” options under Calculated Auxiliary programming in the Programmer’s Reference section:
- Secure on +ON*
 - Free on +ON*
 - Secure on -OFF*
 - Free on -OFF*

Lift Programming Planning Sheet - Floor Button Feedback.

LIFT NUMBER [Menu, 7, 9]	DESCRIPTION	ACCESS GROUP [Menu, 2, 4, 2]	READER connected to Reader Module: [Menu, 7, 2, 4]	LCD Terminal for PINs [Menu, 7, 2, 1]	FLOOR LIST [Menu, 2, 3, 4]	NUMBER OF FLOORS (max 64)	1st FLOOR AUXILIARY	BUTTON AREA [Menu, 7, 1]
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:
LC _ _ _ _		AG _ _ _ _ Name:	R _ _ _ _ Rdr 1 / Rdr 2	T _ _ _ _	FL _ _ _ _		_ _ _ : X _ _	A _ _ _ _ Name:

LIFT CONTROL WITH HIGH LEVEL INTERFACE (V3 OR LATER)

Lift control logic can be used to control Floor security for a number of Lift Cars. The security of up to 64 floors can be controlled for a maximum of 32 Lift Cars depending on interface method used, memory size, memory configuration and system traffic.

There are three methods of Lift Control available. All methods use a standard Reader Module mounted in each Lift Car for interface to the Reader. An optional LCD Terminal may also be installed in each Lift Car if Card+PIN is required for high security applications:

- 1) Floor Button Enable via simple Relay interface.
-Expander Module/s are installed in the Lift motor room to provide Auxiliary Outputs to enable/disable each Floor selection button. (The Auxiliaries control Relays that provide the interface to the Lift Controller.)

See "Basic Lift Programming" in the Basic Programming Guide section.

- 2) Floor Selection via Button Feedback. (V3 or later)
-Universal Expander Module/s with Lift Interface board/s fitted are installed in the Lift motor room. These provide an Isolated Zone Input and Relay output that are effectively connected in series with each Floor selection button.

See "Lift Control with Button Feedback" in the Applications Programming Guide section.

- 3) High Level Interface via RS232 UART Port. (V3 or later)
-A single RS232 connection is established between a UART Port fitted to the Control Module, and a High Level Elevator Management System (EMS). This allows security mask information to be transferred to the EMS without the need for Expander modules to provide Auxiliaries and Zones for Button Inputs. At present the OTIS protocol is supported with logging of lift buttons.
The High Level interface drastically reduces the amount of cabling and labour associated with the installation which can also lead to a greater level of reliability.

-When a User presents a valid card at the reader in the Lift Car, the system checks the User's "Lift Car List", "Floor List", etc. and sends data to the EMS to enable all the floor buttons for the floor/s allowed. The buttons are enabled for a fixed period of time after the valid card has been presented, and then the system sends data to the EMS to re-instate any floors in secure mode.

-During the button time, the system polls the EMS every half second for any buttons that have been pushed, and if found, logs them to Review.

-If a User is allowed access to more than one floor, it is possible for them to select multiple floors during the button enable time. The EMS sends back data to indicate which floor (or floors) were selected. This data from the EMS allows details the Floor/s selected to be saved to Review along with the "User access/denied at Lift Car ###" message.

-The system refreshes the security mask for each lift in turn every 15 seconds. This ensures that the secure state of floors will be re-instated in the event of the EMS system resetting. The security mask is also downloaded to the EMS every time the EMS Comms Task is started.



Installation Notes:

- 1) CAUTION: If a Control Module is being upgraded from an earlier version firmware to Version 3 for Lift Control features, the Memory will need to be re-configured as new Memory structures have been added.
- 2) State and/or National Building regulations may govern the type of Lift control allowed on any particular site.
- 3) The Reader, along with a standard Reader Module and Power Supply, are normally installed in the Lift Car.
i.e. Allow one Reader Module per Lift Car.
The Reader Module is connected to the LAN via twisted pair cable, preferably shielded, up the Lift shaft. It is recommended that a LAN Isolator is installed in the Lift motor room to isolate the LAN cable in the Lift shaft from the rest of the LAN. One LAN Isolator will provide isolated LAN branches for two Lifts.
- 4) In some circumstances, the Reader Module can be installed in the Lift motor room, and provide the interface to Readers in two Lift Cars. The following points must be noted:
 - The total length of trailing cable from the Reader to the Reader Module must be within the maximum cable length allowed as specified by the Reader manufacturer.
 - The cable from the Reader to the Reader Module must be as specified by the Reader manufacturer. i.e. shielded data cable and not twisted pairs.
 - Only one of the two Readers can be processed at a time. i.e. While Lift buttons are enabled in one Lift Car, the Reader in the other Lift Car will not accept cards.
- 5) -When High Level interface is used, the Access 4000 Control Module, Special Control Module options chip, plus appropriate UART board (1, 2 or 4 Port) and Computer Interface Cable must be used. (No Expander Modules required) The Control Module should be installed within 15 metres of the EMS.
- 6) High Level EMS Protocols currently supported:
 - OTIS EMS - Security/B.M.S. Protocol Ref: 51646B
- 7) In the High Level interface some transfer timing constraints do exist when the EMS reports back the floor/s selected. During periods of peak traffic the "floors selected" message may be delayed as the EMS considers this a lower priority message than the security mask data that it must receive each time a valid card is presented.

Programming

1. Note Lift details.

- 1.1 Plan your Lift programming requirements. For each Lift Car note the:
 - Lift Car number to be used. (LC002, LC002, etc.)
 - Reader Module being used. (R001, R002, etc.)
 - Reader Module Port that the Reader for each Lift Car is connected to. (Rdr 1 or Rdr 2)
 - Any LCD Terminal/s used for Card + PIN access in Lift Cars.
 - Any restrictions on floors accessed by particular Lift Cars.
 - Any Areas to be assigned to floors. IF required for prevention of entry into Areas that are turned On.

The table at the end of this section may be copied and used to record this information before programming is commenced.

2. Program the Reader Module/s [MENU 7, 2, 4]

Program the attributes required for each Reader Module used for Lift Control.

- 2.1 Adjust the Reader Module "Poll Time" and "LAN Priority" IF this is considered necessary. LAN Priority programming is accessed by pressing the <ON> key when the "Poll Time" is displayed.
- 2.2 Check that the Reader Module Purpose is set to "Lift Control".
- 2.3 Assign the 1st Lift to be controlled by this Reader Module.
- 2.4 IF the Reader Module is to be used in "2 Door/Lift" Mode;
Assign the 2nd Lift to be controlled by this Reader Module. (NOT RECOMMENDED)
- 2.5 Program the Reader Module Options. [C E X F W N T 2]
Comms (LAN) Fail Options:
 Not relevant to Lift Control.
Other Options:
 - No Valid/Invalid LED control. Set to Yes IF the LED Auxiliaries need to be used for other purposes.
 - 2 Door/Lift Mode. Set to Yes IF Reader Module is to be used to control 2 Lift Cars.
- 2.6 Program the parameters for the first Reader (Rdr 1) connected to the Reader Module.
 - Reader location. Set to Outside (the Reader is used to Enter).
 - Reader Format. Choose the correct Card data format.
 - Reader Mode. Credit Card/Direct Entry/Site Code/Any Card
 - Keypad for PIN code Entry. IF Lift requires Card + PIN for floor access.
 - Module for PINs. IF "LCD Terminal" is selected as the Keypad for PIN in the previous option, program the module number (Txxx) of the LCD Terminal to be used.
- 2.7 Program the parameters for second Reader (Rdr 2) connected to the Reader Module.
 Note: In 2 Door/Lift Mode, Rdr 1 controls the 1st Lift and Rdr 2 controls the 2nd Lift.
 Options are the same as those for the first Reader.

3. Initialize the LAN

Whenever any programming is done that effects Module parameters, (especially Reader Modules, LCD Terminals and Mini Expanders) the LAN must be initialized to ensure that all changes take effect.

If all modules are connected and operational, and the system is complete, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. ("Secure LAN" Initializes the LAN and sets the Encryption)

4. Program Access Groups. [MENU, 2, 4, 2]

- 4.1 It is recommended that one or more new Access Groups are programmed to define Lift Control requirements.
- 4.2 Program a name for any new Access Groups that you create.
- 4.3 IF it is necessary to restrict the valid period of the Access Group, or provide an alternate set of Access Group permissions for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the Access Group is Valid.
e.g. If "Card Only" operation is adequate during the day, but "Card+PIN" is required after hours.
- 4.4 If a TimeZone is assigned, you may then specify an Alternate Access Group that will be used when the TimeZone specified in the previous step is Invalid.
- 4.5 Program the Entry Parameters required.
 - Entry Mode. Card only / Card AND PIN. ("PIN only" & "PIN or Card" are not relevant for Lift Control)
 - Entry Options. [B L A D]
 - Dual User. Set to Yes IF two User Codes / Cards are required to allow entry.
- 4.6 Program the Exit Parameters required.
 - Exit Mode. Card only / Card AND PIN. ("PIN only" & "PIN or Card" are not relevant for Lift Control)
 - Exit Options. [B L A D]
 - Dual User. Set to Yes IF two User Codes / Cards are required to allow exit.

5. Program Floor Lists [MENU 2, 3, 4]

IF any Lift Cars are to be restricted to servicing only specific floors, Floor List/s must be programmed to define the floors allowed for each Lift Car.

- 5.1 Determine the Floor/s that different Lift Cars will be restricted to.
From this information you can program the **Floor Lists** required [MENU 2, 3, 4].
- 5.2 IF it is necessary to restrict the valid period of the Floor List, or provide an alternate List of Floors for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the Floor List is Valid.
- 5.3 If a TimeZone is assigned, you may then specify an Alternate Floor List that will be used when the TimeZone specified in the previous step is Invalid.
- 5.4 Assign the Floor/s to each Floor List. A Floor List can support any number of Floors up to the maximum number of Floors allowed in the Memory configuration.

6. Program the Lifts [MENU, 7, 6]

Each Lift Car to be controlled is individually programmed.

- 6.1 Select the Lift Car number to program.
- 6.2 Assign a suitable "Access Group". This will determine the way that the Lift is controlled.
- 6.3 IF the Lift Car is to be restricted to servicing only specific floors, assign a "Floor List".
- 6.4 Define the total "Number of Floors" to be controlled in this Lift Car.
- 6.5 Do not define the "1st Floor Auxiliary". This option must be left blank if a High Level interface is used.
- 6.6 Assign the "Valid Auxiliary" for the Lift if required. This Auxiliary is turned On for the "button time".
- 6.7 Program the "Button Time". This is the maximum time the floor buttons will remain active. Typically set to about 5 seconds.
- 6.8 Program the EMS ID. "00" disables High Level Interface.
 - The first digit is the EMS Group and must be programmed with a value of 1 to 8 inclusive.
 - The second digit is the EMS Lift Car and must be programmed with a value of 1 to 8 inclusive.
- 6.9 Assign the "Floor Areas" if required. Normally left at "None" unless User access is to be restricted based on the Area status and the User Type's Area Off permissions.

7. Program the General System Options. [MENU, 7, 5, 1]

- 7.1 "Reader for User Programming". Reader Module #001 is normally used for Testing Cards, Enrolling User's Cards & programming Backup Cards.
IF another Reader Module is to be used for these purposes, program the Reader Module number in the "Reader for User Programming" option in the General System Options.

e.g. Reader Module #001 may be used in a Lift Car making it inconvenient to use for testing and enrolling Cards etc.

Note: If Door Access Control is already programmed in the system, this option may already be programmed.

8. Program the EMS Comms Task. [MENU, 7, 3, 1]

A Comms Task must be programmed to allow the panel to communicate with the EMS (Elevator Management System)

- 8.1 Select a new Comms Task to program.
- 8.2 Select the "EMS" Format.
- 8.3 Define the UART Port to use. Must be Port 1 to 4. Port 0 is illegal.
- 8.4 Select the Baud rate. This must be the same at the Baud rate set in the EMS.
 Check the Baud rate of other Comms Tasks to ensure that the total Baud rate of all UART Ports combined does not exceed 19200.
 A Baud rate of 9600 or lower should be used. Typically 2400 is preferred.
- 8.5 Define the "Number of EMS Floors". This is the maximum number of floors that this EMS handles.
- 8.6 Assign the EMS "Group x Floor List/s". This option is only required if any floors are not serviced by all the Lifts in the Group. The Floor List assigned will only include the floors serviced by Lifts in this Group.
 A Floor List may be assigned for each of the 8 possible EMS Groups.
 If the Floor List is left at "FL000", then all floors are serviced by at least one Lift in the Group.

9. Program the Site Code/s. [MENU, 2, 5]

- 9.1 IF cards are to be entered into the system using the Site Code method, at least one Site Code will need to be programmed. The Site Code method simplifies card programming, allowing cards to be entered without the need to present the card at a Reader. Site Code method can be used with Inner Range Magnetic Swipe Cards, or Wiegand Cards/ID Tokens with a format in which the system supports Site Codes. e.g. 26 Bit Wiegand.

If Door Access Control is already programmed in the system, the Site Code/s may already be programmed.

- 9.2 Program the Site Code in Hex or Decimal format.
- 9.3 Program a Card Offset if required.
- 9.4 Set "Site Code Present" to Yes.

10. Program Access Alarm processing

When Lift Access Control is implemented in a system additional System Inputs are available to be processed and/or monitored as required. e.g.

Relevant Reader Module System Inputs:

Cabinet Tamper, Low Volts, Illegal Card and LAN Comms.

Relevant LCD Terminal System Inputs:

Cabinet Tamper, Panic, Operator Duress, Too many tries and LAN Comms.

- 10.1 Identify the Lift Access Control System Inputs that you wish to process and/or monitor in some way.
- 10.2 Return to "Alarm Processing"; Steps 1 (Program the Inputs), 2 (Check/Program Process Group Requirements), and 4 (Program the Areas) to add the System Inputs and any additional Zone Inputs on Reader Modules and LCD Terminals used for Access Control.

NOTE: You may choose to simply use the "Add System Inputs" default feature in Area Programming to add the Access Control System Inputs to an Area if this fulfils system monitoring requirements.

11. Securing the Floors

When Lift Access Control operation is being commissioned the required Floors must be placed on security by a Floor Control operation. This can be done via "Lift Control" in the Control Menu [MENU, 9, 4]

- 11.1 Select "Lift Control" in the Control Menu. [MENU, 9, 4]
- 11.2 Enter the Lift Car number to control. ("00" = All Lifts)
- 11.3 Enter the Floor number to control. ("00" = All Floors)
- 11.4 Press the "7" (S) key to Secure the Floor/s. (The "1" (A) key is used to Access Floor/s)

12. Automated Free Access and Securing of Floor/s

It may be necessary to have a facility to provide automatic “Free Access” and/or “Securing” of Floors.

This can be a useful feature in sites where free access is required on specific floors during specified times and/or under certain circumstances.

12.1 At Specific Times and/or for Specified period/s of Time. Program TimeZone/s. [MENU, 5, 2]

Refer to the “TimeZone Function” options under TimeZone programming in the Programmer’s Reference section:

Lift Car & Floor

Lift Car & Floor List

Lift Car List and Floor

Lift Car List & Floor List

12.2 As a result of any event in the system that can control an Auxiliary.

e.g. Keyswitch, Area On/Off, Alarm, etc.

Program Calculated Auxiliaries. [MENU, 7, 5, 4]

Refer to the “Calculated Auxiliary Action” options under Calculated Auxiliary programming in the Programmer’s Reference section:

Secure on +ON

Free on +ON

Secure on -OFF

Free on -OFF

L

Lift Programming Planning Sheet - High Level Interface.

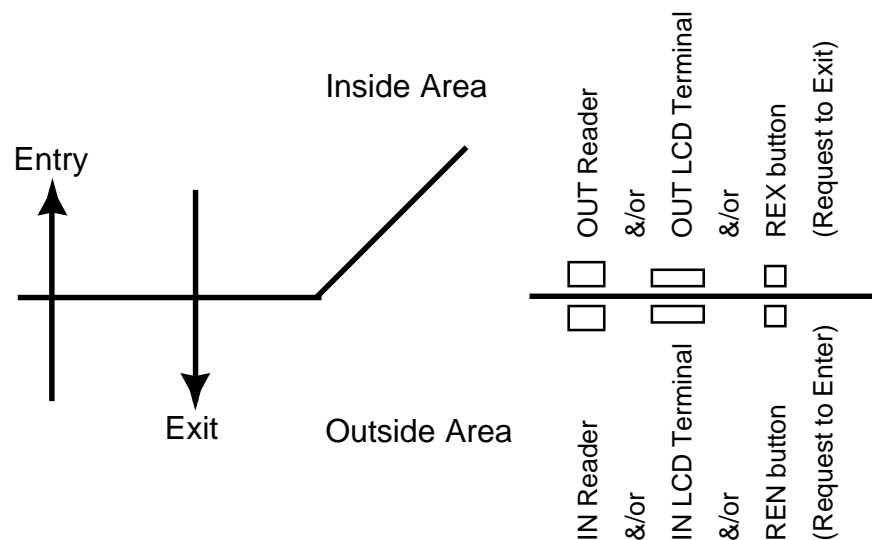
LIFT NUMBER [Menu, 7, 9]	DESCRIPTION	ACCESS GROUP [Menu, 2, 4, 2] AG ____ Name:	READER connected to Reader Module: [Menu, 7, 2, 4] R ____ Rdr 1 / Rdr 2	LCD Terminal for PINs [Menu, 7, 2, 1] T ____	FLOOR LIST [Menu, 2, 3, 4] FL ____	NUMBER OF FLOORS (max 64)	EMS ID
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--
LC ____		AG ____ Name:	R ____ Rdr 1 / Rdr 2	T ____	FL ____		--

READER AREA CONTROL

Reader Area on/off control operation provides sophisticated integration between the Access Control and Security monitoring facilities in the system. A number of options have been provided to make on/off operation as flexible as possible.

The programming sequence provided here assumes that basic Door Access Control has already been programmed. See “Door Programming” in the Basic Programming Guide Section.

The diagram below illustrates the relationship between the Door, the IN and OUT devices and the Inside and Outside Areas.



1. Check/Program the Reader Module/s [MENU 7, 2, 4]

Program the relevant Area Control attributes required for each Reader Module in the system.

1.1 IF the Reader is to be used to turn an Area ON, Choose the appropriate Reader “Arming Mode”.

The available modes are:

1. “Extra Area if Zone 8”. Arm extra area if zone 8 is unsealed, then allow egress.

This mode allows the user extra area to be turned on as you egress a particular door or doors. This is useful to automatically turn on an individual user based area when using a common door. It is normally associated with the (T)urn off extra area option above.

2. “Exit Area if Count = 0”. Arm door area you are leaving if you are the last person to leave, then allow egress.

This mode can be very unreliable. It relies on every person swiping their card on both ingress and egress to work as desired. Note that REX and REN buttons cannot be used as pushing these buttons does not maintain user area counts. If the area is armed by another means, the numbers of persons in this area will be set to zero regardless. The number of users in an area can also be inspected/modified in area programming. The memory must be configured V2.00 or later to ensure that a area count structure exists. (An alternative to this mode worth considering is turning on areas when no zone activity has been detected for a period of time.)

3. “Exit Area if Zone 8”. Arm door area you are leaving if zone 8 is unsealed, then allow egress.

This mode can replace the current V01.00 mode of operation in instances where a REX button is not being used. As the user leaves, pressing the zone 8 unseal button will automatically turn on the area they are leaving. (A short exit delay may be required to allow egress out of the protected area.)

R

4. *“Entry Area if Zone 8”. Arm door area on other side of door if zone 8 is in alarm. No access granted*

This mode is identical to V01.00 operation. It can be used once an area has been left (via say free access or a REX button) to arm the area on the other side of the door. Alternatively it can be associated a “dummy door” to provide a reader solely for turning on an area.

5. *“Exit Area if 3 ”. Arm door area you are leaving if card presented 3 times, then allow egress.*

This mode can be used in instances where a REX button is not being used. As the user leaves, presenting/swiping the card 3 times at the Reader within 5 seconds will automatically turn on the area they are leaving. (A short exit delay may be required to allow egress out of the protected area.)

6. *“Entry Area if 3 ”. Arm door area on other side of door if card presented 3 times. No access granted.*

This mode can be used once an area has been left (via say free access or a REX button) to arm the area on the other side of the door by presenting/swiping the card 3 times at the Reader within 5 seconds. Alternatively it can be associated a “dummy door” to provide a reader solely for turning on an area.

1.2 Set “Turn Off Extra Area” to Yes IF Auto Area Off is allowed at this Door (via Access Group programming) and the User’s Extra Area is to be turned Off instead of the “Inside Area” assigned to the door.

If the (T)urn off extra area option is set for this reader then the user “Extra Area” may be turned off instead of the Door Area that you are about to enter (if assigned). The user extra area will be turned off before an attempt is made to turn off the door entry area if:

1. The “User Extra Area” option exists for this User and the Area is defined.
2. The “(T)urn off User Extra Area” option is set for this reader.
3. The “(E)xtra Area Off” option is set for this User.
4. The User Extra Area is currently on.
5. The User Extra Area appears in the “Area Off List” in the User’s User Type at this time.
6. The Door Access Group allows “(A)uto Area Off” for this direction through the Door at this time.

Note that if any of the above conditions is false then operation will revert to testing for Area On on the Area assigned to the Door that you are about to enter.

1.3 Program the parameters for the first Reader (Rdr 1) connected to the Reader Module.

-Reader location. Outside (the Reader is used to Enter) or Inside (the Reader is used to Exit).

1.4 Program the parameters for second Reader (Rdr 2) connected to the Reader Module.
Note: In 2 Door Mode, Rdr 1 controls the 1st Door and Rdr 2 controls the 2nd Door.
Options are the same as those for the first Reader.

2. Check/Program Access Group requirements. [MENU, 2, 4, 2]

- 2.1 IF your system has any Door Area Control requirements not provided in the current Access Groups, you may need to program additional **Access Groups**, and/or edit the default **Access Groups** as required. [MENU 2, 4, 2]
NOTE: The 3 Default Access Groups cover some basic Door access control requirements.
- 2.2 IF it is necessary to restrict the valid period of the Access Group, or provide an alternate set of Access Group permissions for different times of day and/or days of the week, assign an appropriate TimeZone to specify when the Access Group is Valid. This may be necessary if “Auto Area Off” is only to be allowed at specific times/days.
- 2.3 If a TimeZone is assigned, you may then specify an Alternate Access Group that will be used when the TimeZone specified in the previous step is Invalid.
- 2.4 Program the Entry Parameters required. Set “Auto Area Off” to Yes IF specified Users are allowed to automatically turn Off the “Inside” Area or their “Extra” Area.

-Entry Options. [B L A D]

- REN Button operation.
- DeadLock function. Disables REN button if Outside Area is On.
- Auto Area Off. If the Inside Area is On, allows the Area to automatically be turned off when the User Enters. (Note: Area must be in the Area Off List, in the User’s User Type)
- Dual User. Set to Yes IF two User Codes / Cards are required to allow entry.

- 2.5 Program the Exit Parameters required. Set “Auto Area Off” to Yes IF specified Users are allowed to automatically turn Off the “Outside” Area or their “Extra” Area.

-Exit Options. [B L A D]

- REX Button operation.
- DeadLock function. Disables REX button if Inside Area is On.
- Auto Area Off. If the Outside Area is On, allows the Area to automatically be turned off when the User Exits. (Note: Area must be in the Area Off List, in the User’s User Type)
- Dual User. Set to Yes IF two User Codes / Cards are required to allow exit.

3. Check/Program the Doors [MENU, 7, 6]

- 3.1 Select the Door to edit.
- 3.2 Assign an “Inside” and/or “Outside” Area.
IF required for:
 - Prevention of entry/exit into Areas that are turned On.
 - Area Off and/or On control by access Readers.**
 - “Anti-passback” and “Wrong Area” processing.
 - Tracking of User location.
 - User counting in Areas.
- 3.3 Assign a suitable Access Group. This will determine the way that the Door is controlled.

4. Initialize the LAN

Whenever any programming is done that effects Module parameters, (especially Reader Modules, LCD Terminals and Mini Expanders) the LAN must be initialized to ensure that all changes take effect.

If all modules are connected and operational, and the system is complete, perform the **Secure LAN [MENU 7, 8, 1]** or **Initialize LAN [MENU 7, 8, 2]** functions. (“Secure LAN” Initializes the LAN and sets the Encryption)

5. Check/Program the User Types [MENU, 2, 2]

- 5.1 Select the User Type to edit.
- 5.2 For User Types that are allowed Reader Area Control, check that the appropriate “Area ON List” and/or “Area OFF List” is assigned that include the Area/s to be controlled.

6. Check/Program the Users [MENU, 2, 1]

- 6.1 Select the User to edit.
- 6.2 Check that an appropriate User Type is assigned.
- 6.3 IF User Extra Area Control is required, program the User Options. [N D L E G . . .]
Set “Extra Area Off” to Yes.
This allows the User to control the “Extra Area” defined in the next option according to the Reader Module and Door Access Group options. The User’s Extra Area will be turned Off as well as the Area on the opposite side of the Door (If defined).
- 6.4 IF User Extra Area Control is required, assigned the User’s “Extra Area”.

REVIEW MANAGEMENT

The 3000 / Access 4000 has a very comprehensive Review log to enable both the User and Installer to view specific events within the history. The amount of review history and the type of events saved within this log can be determined by a number of factors.

1. Size of the Memory fitted on the Control Module.
2. Configuration of the Memory. (Only relevant in 32k Memory configurations)
2. Type of events saved to review.
3. Mode of review set within the General System Options programming.

The size and configuration of the Memory only effects the number of events that can be stored within the review log, it has no effect on the type of events stored.

The type of events saved to review has the biggest impact on how quickly the review log will fill up and therefore how quickly old events will be lost. If events such as Auxiliary on/off and Input change of state (alarm/tamper/seal) messages are all saved to Review, the Review log will fill up a lot faster. These types of events are often not necessarily required by either the end user or the installer on a general day to day basis.

Limiting the amount of Review events generated by the system may be necessary to ensure that important events are kept as long as possible and are easy to find. In smaller systems with minimal activity, simply ensure that “Detailed Review” in the General System Options is set to No. (see Step 4)

In systems that generate a lot of activity, more limitations on Review events will need to be considered.

Programming Options are provided to limit how much unnecessary information is actually stored in review.

1. Auxiliary Timer Options. [MENU, 5, 5]

The Installer can specify whether on/off events for each individual Auxiliary in the system are saved to Review.

- 1.1 Select the Auxiliary Timer to edit.
- 1.2 IF On/Off Events for a particular Auxiliary are not to be saved to Review, set the “Save to Review” option to No.

Saving all Auxiliary events to review can be useful when commissioning a system, debugging system programming, servicing or fault finding. However during normal system operation Auxiliary on/off events are of little use to the User or Installer unless required for a specific purpose.

e.g. System Management software such as Accept requires any auxiliary that it is to be monitored or controlled to be logged to review so that the correct state of that auxiliary is always known (eg door lock). These types of programs also have their own methods of filtering out unwanted events from the review.

Auxiliaries used for purposes such as calculations, lift control and automation, are generally not required to be viewed by Users and can therefore have the “Save to Review” option set to NO.

This also benefits the installer when fault finding as only the relevant auxiliaries will be saved to review giving a clearer picture of a sequence of events without having to filter through pages of unwanted events.

See the examples of Review data at the end of this chapter.

2. AirConditioning Options. [MENU, 7, 5, 6]

The Installer can specify whether events for AirConditioning control programs are saved to Review.

- 2.1 Select the AirConditioning program to edit.
- 2.2 Select the “No Review” option IF required. [D T F N]
-No Review. Set to Yes IF No AirConditioning control events are to be saved to Review.

R

3. Input Options. [MENU, 7, 0]

The Installer can specify whether Alarm/Tamper/Seal events for each individual Input in the system are saved to Review. *See notes below for important information on Input event messages and Alarm messages.*

3.1 Select the Input to edit.

3.2 Program any Review options required. [S C X S R A N T]

-C01:X01 On for Review. Set to Yes IF Input state events for this Input are only saved to Review when Control Module Auxiliary 01 (C01:X01) is On. Note. If set to Yes, “No Review” must also be set to Yes.

This allows another event or condition in the system that can control an Auxiliary to enable/disable Review logging for this Input. e.g. Area On/Off, TimeZone, etc.

This option could also be set up by the Installer as a simple way of enabling all Input Review logging when required for fault finding or program de-bugging, etc. C01:X01 can simply be turned on via the Test Menu when required. (This would require that C01:X01 is not used for any other purpose) *See “Force Review” in Step 4 for an alternative.*

-No Review. Set to Yes IF No Input state events are to be saved to Review for this Input.

Input State Messages. Setting these options in the Input database prevents Input state messages from being saved to Review. That is, the messages that indicate that a change of state has occurred on the Input. Whether or not these messages are saved to Review depends entirely on these settings in the Input Programming.

e.g. Review messages such as “Alarm on C01:Z04”, “Alarm on HALLWAY PIR”, “Tamper on FIRE DOOR” or “Restore on OFFICE PIR” are Input state Review messages, and only indicate that the Input has changed to that state.

i.e. The Un-sealed state (Alarm), Open/Short state (Tamper) or Sealed state (Restore).

Alarm annunciation. The change of state may or may not generate an actual “Alarm” (Terminal message, Siren, Auxiliary for Strobe, Reporting, etc.) depending on other factors such as whether the Area is On or Off and how the Process Group assigned to the Input is programmed. The action/s that result from that change of state such as Siren events, Report to a Comms Task (e.g. Central Station or Computer, etc), etc. are recorded as separate Review Events.

Inputs processed as “Burglary” or “Fire” types, etc. will usually generate some sort of “Alarm” when they change to the Alarm state. (And the Area they are assigned to is On)

On the other hand Inputs processed as “Function Zones”, “Lighting Control”, “Lift Buttons” or “Aircon control” etc. would normally only perform the function required when they change state without any type of “Alarm” annunciation.

“XMIT” messages. When an Input is required to annunciate an “Alarm” in the system, the Process Group assigned to the Input will usually have some of the “Comms Options” enabled. [I T A R E X U S] The Comms Options allow the Installer to specify which Input conditions will generate an “Xmit” message for subsequent reporting to a Comms Task. Normally, the “A”larm and “R”estore options are always selected for this type of Input processing, while the “T”solate and “T”amper options are often selected as well. (Setting Comms Options is mandatory for Central Station reporting)

When these Comms Options are selected in the Process Group, Review events such as “Xmit Alarm on Office PIR in Office Area” will be generated when the Input changes state. This indicates that the Input is to report an “Alarm” condition, and the Area in which the Alarm has occurred. When Inputs are processed in this way and generate “Xmit” messages, in most cases the “Input State messages” are no longer necessary and the “No Review” option can be set to Yes for these Inputs.

Comms Tasks. Remember that any Xmit entry will be sent by any Comms Task that is active. If you do not want all Xmit messages to be sent via a particular Comms Task you can filter the Xmit messages by assigning an “Area List filter” or selecting the required “Extra Filter” options.

See individual “Comms Task” programming options in the Programming Reference section.

4. General System Options. [MENU, 7, 5, 1]**4.1 Select Review options IF required. [N D F R f + I .]**

-Detailed Review. Set to Yes IF Detailed Review Mode is required.

-Force **R**eview. Set to Yes IF the “No Review” settings in Input options and AirConditioning options, and the “Save to Review” settings in Auxiliary Timer options are to be ignored.

This option would normally be selected temporarily by the Installer to Force all activity to be recorded to Review for fault finding and program checking, etc.

Detailed Review. In V2.00 or later Control Module firmware, “Detail” and “Non detail” modes of review are available. The default condition is non-detailed mode that prevents specific types of events from being saved to review. The types of events filtered out are considered of a technical nature and of relevance to the installation technician only.

e.g. A selection of Comms Task messages such as handshake events, etc.

Area entry, exit, siren and pulse count events.

AC holdoff timer and Low battery timer events.

User Menu access tracing messages.

Detail mode may be switched on by the technician at any stage to give additional information to events such as communications, area arming and disarming, door interlocking etc.

Examples.

The following examples show how the amount of information saved to Review can be drastically reduced without effecting the context of the information. In the last example it is still easy to establish that Z01 alarmed and restored, the sirens were triggered, the alarm was communicated successfully and that the zone was then isolated at the end of the siren time. The number of entries has been reduced from 48 to 15 but still provides all the information required.

User Door Access with auxiliary filtering.

Jan01 02:11:39.5 INSTALLER Card Access in .Door 001

User Door Access with no auxiliary filtering.

Jan01 02:08:09.5 INSTALLER Card Access in .Door 001

Jan01 02:08:09.5 R01:X01 On by INSTALLER (Door Lock)

Jan01 02:08:14.5 R01:X01 Off by Aux Timer

Area zone alarm with no detail mode on and no zone or auxiliary being saved to review.

Jan01 02:27:04.6 INSTALLER Pin accepted at LCD Term. #001

Jan01 02:27:09.3 .Area 001 On by INSTALLER

Jan01 02:27:26.5 Xmit Alarm on C01:Z01 in .Area 001 saAo

Jan01 02:27:26.5 Cont. Int/Ext. Siren On by .Area 001 with Sweep tone

Jan01 02:27:26.5 CT02 - Triggered

Jan01 02:27:27.4 Xmit Restore on C01:Z01 in .Area 001 asRo

Jan01 02:27:30.2 CT02 - Dial .Phone 001 on attempt #01

Jan01 02:27:36.5 CT02 - Hangup

Jan01 02:27:47.3 INSTALLER Pin accepted at LCD Term. #001

Jan01 02:27:48.1 Cont. Int/Ext. Siren Off in .Area 001

Jan01 02:27:48.1 C01:Z01 Isolated by Siren Lockout in .Area 001

Jan01 02:27:48.1 Xmit Isolate on C01:Z01 in .Area 001 sio

Jan01 02:27:48.2 CT02 - Triggered

Jan01 02:27:51.5 .Area 001 Off by INSTALLER

Jan01 02:27:51.8 CT02 - Dial .Phone 001 on attempt #01

Jan01 02:27:57.5 CT02 - Hangup

R

Area zone alarm with detail mode on and the raw zone being saved to review.

Jan01 02:21:19.3 INSTALLER Pin accepted at LCD Term. #001
Jan01 02:21:24.2 Exit timer started in .Area 001 for 010 secs
Jan01 02:21:24.2 .Area 001 On by INSTALLER
Jan01 02:21:35.1 Exit timer expired in .Area 001
Jan01 02:21:36.4 Prune Enables
Jan01 02:21:43.5 Alarm on C01:Z01
Jan01 02:21:43.5 Xmit Alarm on C01:Z01 in .Area 001 saAo
Jan01 02:21:43.5 C01:X02 On by .Area 001 Alarm Aux
Jan01 02:21:43.5 Siren timer started in .Area 001 for 010 mins
Jan01 02:21:43.5 C01:X01 On by .Area 001 Siren Aux
Jan01 02:21:43.5 Cont. Int/Ext. Siren On by .Area 001 with Sweep tone
Jan01 02:21:43.5 CT02 - Triggered
Jan01 02:21:46.4 Restore on C01:Z01
Jan01 02:21:46.4 Xmit Restore on C01:Z01 in .Area 001 asRo
Jan01 02:21:47.2 CT02 - Waiting to Dial: Sensed Dial
Jan01 02:21:47.2 CT02 - Dial .Phone 001 on attempt #01
Jan01 02:21:48.5 CT02 - Waiting for H/S: Sensed Dial
Jan01 02:21:50.5 CT02 - Waiting for H/S: Sensed Quiet
Jan01 02:21:52.2 CT02 - Waiting for H/S: Sensed AdFast
Jan01 02:21:52.6 CT02 - Modem Connect 1200 Baud
Jan01 02:21:52.6 CT02 - Tx Cmd \$6815
Jan01 02:21:52.9 CT02 - Rx Cmd \$6007
Jan01 02:21:52.9 CT02 - Tx Cmd \$6015
Jan01 02:21:53.2 CT02 - Rx Cmd \$6007
Jan01 02:21:53.3 CT02 - Tx Cmd \$600A
Jan01 02:21:53.5 CT02 - Rx Cmd \$0207
Jan01 02:21:53.5 CT02 - Hangup
Jan01 02:22:08.3 INSTALLER Pin accepted at LCD Term. #001
Jan01 02:22:09.1 Siren timer expired in .Area 001
Jan01 02:22:09.1 Cont. Int/Ext. Siren Off in .Area 001
Jan01 02:22:09.1 C01:X01 Off by .Area 001 Siren Aux
Jan01 02:22:09.1 C01:Z01 Isolated by Siren Lockout in .Area 001
Jan01 02:22:09.1 Isolate on C01:Z01
Jan01 02:22:09.1 Xmit Isolate on C01:Z01 in .Area 001 sio
Jan01 02:22:09.1 CT02 - Triggered
Jan01 02:22:12.8 CT02 - Waiting to Dial: Sensed Dial
Jan01 02:22:12.8 CT02 - Dial .Phone 001 on attempt #01
Jan01 02:22:14.1 CT02 - Waiting for H/S: Sensed Dial
Jan01 02:22:16.0 CT02 - Waiting for H/S: Sensed Quiet
Jan01 02:22:17.8 CT02 - Waiting for H/S: Sensed AdFast
Jan01 02:22:18.0 CT02 - Modem Connect 1200 Baud
Jan01 02:22:18.0 CT02 - Tx Cmd \$6815
Jan01 02:22:18.3 CT02 - Rx Cmd \$6007
Jan01 02:22:18.4 CT02 - Tx Cmd \$600A
Jan01 02:22:18.6 CT02 - Rx Cmd \$0207
Jan01 02:22:18.6 CT02 - Hangup
Jan01 02:22:21.2 C01:X02 Off by .Area 001 Alarm Aux
Jan01 02:22:21.2 .Area 001 Off by INSTALLER
Jan01 02:22:21.2 Prune Enables

SIREN CONTROL IN DETAIL,

1. Program Process Group Siren options. [MENU, 2, 4, 3]

When an Input Alarm and/or Tamper condition occurs in an Area, Siren operation is determined by the Siren options programmed in the Process Group that is assigned to the Input in that Area.

- 1.1 a) Select the “Siren Tone” to be generated by the Siren outputs on an Input Alarm.
The Siren Tone options are: None, Bell, Sweep, Fire or Evacuation.
- b) Select the “Siren Tone” to be generated by the Siren outputs on an Input Tamper.
The Siren Tone options are: None, Bell, Sweep, Fire or Evacuation.

Note: Siren Tone selection applies to both “External” and “Internal” Siren outputs.

- 1.2 Select the required “Siren Lockout” option.
-Yes. Zones/Inputs that have started a Siren will be automatically isolated at the end of the Siren time.
-No. Zones/Inputs can re-start the Siren if they alarm/tamper again after the Siren time has expired.
- 1.3 Select the required “Siren Re-trigger” option.
-Yes. Zones/Inputs will re-start the Siren timer if they alarm/tamper again after the Siren has started. This option intended for Building automation functions and not used for Alarms.
-No. Siren timer will always time-out. (Unless cancelled by User code or Area Off)

2. Program Siren Lists. [MENU 2, 3, 3]

- 2.1 Program the **Siren List/s** required. [MENU 2, 3, 3] A Siren List can be assigned to each Area to specify which Sirens will activate on relevant alarms in that Area. Use the details obtained in *Getting Started, Step 2*, to determine the Sirens available.

NOTES:

- 1) Alarms in different Areas can activate different Sirens (or combinations of Sirens) if required. Program a different Siren List for each combination of Sirens.
- 2) Keep a written record of Siren List programming details, as Siren Lists cannot be named in the on-board memory.

3. Program the Area Siren options. [MENU 7, 1]

- 3.1 a) Select the “Siren Mode” for the Internal Siren Outputs.
The Siren Mode options are: No Siren, Instant, 2nd Hit, or Backup.
- b) Select the “Siren Mode” for the External Siren Outputs.
The Siren Mode options are: No Siren, Instant, 2nd Hit, or Backup.
- 3.2 Assign the Siren List to sound for this Area.
- 3.3 Program the Siren Time. (1 - 255 minutes)
- 3.4 IF a separate Auxiliary or Auxiliary List is required to follow the Siren output, assign the Auxiliary (or List) to the “Siren Auxiliary” (e.g. For 12V Piezo screamers, etc. that do not require the Siren tone signal generated by the Siren outputs)
- 3.5 When assigning the Inputs to the Area, ensure that the Process Group chosen for each Input provides the appropriate Siren options.

TIME REPORT (PERIODIC TEST REPORT)

This feature enables a TimeZone to be used to automatically trigger a Test report to the Central Monitoring Station.

1. Program the TimeZone [MENU, 5, 2]

- 1.1 Select the TimeZone and program an appropriate name. e.g. "Time Report" or "Test Report".
- 1.2 Program the first TimeZone period to define when the Time Report will be sent.
- 1.3 Program the Valid Days of the week for the first Period.
i.e. Days when the function is required to operate.
- 1.4 IF the TimeZone requirements are more complex, program the second (and any subsequent) "TimeZone period" and "Valid Days" to define when the function will be triggered.
e.g. If the Time Report requirements differ from Day to Day.
- 1.5 Assign the Holiday Types to be obeyed. (If necessary)

e.g. Time Report to be sent at 3 AM every night.

1st Period: 03:00-to-03:02

Days: SMTWTFSH all set to Yes.

Note: If the Time Report is required to be sent twice a day, two TimeZone periods can be programmed, using the Start Times of the two periods to define the two report times.

- 1.6 Set TimeZone Function to "Trigger Time Report".
This causes the "Time Report" System Input (C01:S18) to be triggered when the TimeZone goes Valid and/or Invalid according to the following settings.
- 1.7 Set Control Options for Trigger Time Report. [O F o f]
This determines how the Time Report System Input will be triggered. (C01:S18)
-O. Time Report System Input On (Alarm edge) when TimeZone goes Valid.
-F. Not used for this function.
-o. Not used for this function.
-f. Not used for this function.

2. Program a new Process Group. [MENU, 2, 4, 3]

IMPORTANT NOTES: The default "System Silent" Process Group can be used for this application, but will also generate an LCD Terminal message which needs to be acknowledged by a User.

It is recommended to program a special Process Group for this function as shown below. (i.e. Same as "System Silent" but with all "Terminal message Types" set to No)

Alternatively you may choose to set "Terminal message Types" all to No in the "System Silent" Process Group, but note that this will effect other System Inputs and may not be appropriate in all applications.

- 2.1 If a new Process Group is going to be used, select a new Process Group to program and program a name.
e.g. Time Report.
- 2.2 Program the required "Input Type" options. [T A E X U P L S]
-Set the "A" (Alarm) option to Yes. Set all other options to No.
- 2.3 Program the required "Communications Reporting" options. [I T A R E X U S]
For this application only set the Isolate, Alarm and Restore options to Yes.

- 2.4 Contact ID Event Code. IF reporting via Contact ID, leave the setting at “000” and the default Event Code for Periodic Test Report (602) will be used when reporting on the “Time Report” System Input.
- 2.5 Ensure that all the Area Auxiliaries to activate are set to No. [T 1 2 3 4 I]
- 2.6 Siren Options.
 - Set the Siren Tone selection to None for both the Alarm and Tamper states.
 - Ensure that Siren Lockout and Siren Re-trigger are set to No.
- 2.7 Ensure that all LCD Terminal message Types are set to No.
- 2.8 All remaining options should be set to No/None/Disabled.

3. Assign the Time Report System Input (C01:S18) to an Area. [MENU, 7, 1]

- 3.1 Assign the Input to a System Area that is always On with an appropriate Process Group. e.g. The new Process Group programmed in Step 2 (recommended), or the “System Silent” Process Group.

IMPORTANT NOTE:

If the “Add System Inputs” Area default procedure has been used, and the “S” (System Silent) option set to Yes, this Input (C01:S18) will have been assigned to the Area with the “System Silent” Process Group.

If you have programmed a new Process Group in Step 2, you will need to change the Process Group assigned to this Input from “System Silent” to the new Process Group.

See the Basic Programming Section, “Program the Areas” (Step 4) in “Alarm Processing” for details.

TIMED AUXILIARY CONTROL BY MOVEMENT DETECTOR/S (V2 OR LATER)

This feature enables Auxiliary outputs to be used to turn on devices such as lighting, heating, airconditioning, etc. when movement is detected in the Area being controlled. A programmable time-out period (Area Siren time) ensures that the device being controlled will automatically be turned Off again when no movement is detected for a specified period.

The programming in this application is similar to the application “Auto-Arm an Area when No Zone activity”. If required, these two applications could be combined, allowing control of Lighting, Heating & Aircon as well as the Auto-Arming operation from a single controlling Area.

1. Program an Auxiliary List if required. [MENU 2, 3, 6]

IF you require the Detector/s to control more than one Auxiliary, program an Auxiliary List. [MENU 2, 3, 6]
(V2 or later)

- 1.1 Select an Auxiliary List number to program.
- 1.2 Program an Auxiliary List name.
- 1.3 Assign up to 8 Auxiliaries to the List.

2. Program the Input/s that the Detector/s are connected to. [MENU 7, 0]

Inputs used for this purpose may also be used as Burglary or Entry/Exit Zones, etc. and may already be programmed.

- 2.1 Select the Input to be programmed/edited and program a name and other attributes as described in “Alarm Processing”. (If not already programmed)

3. Program the Process Group. [MENU 2, 4, 3]

For this function, the Input/s should be assigned to a separate Area that is only used for Timed Auxiliary Control. A dedicated Process Group can therefore be programmed.

- 3.1 Select the Process Group to be programmed/edited and program a name. e.g. Auto Lighting.
- 3.2 Ensure that the required “Input Type” options are programmed. [T A E X U P L S]
-Ensure the “A” (Alarm) option is set to Yes.
- 3.3 Program the “Alarm Siren Tone selection” to any option other than “None”. e.g. “Sweep”
- 3.4 Ensure that the “Siren Lockout” option is set to No.
- 3.5 Set the “Siren Re-trigger” option to Yes.

4. Program the Area. [MENU 7, 1]

For this function, a separate Area will need to be created for each Auxiliary (or Auxiliary List) that is to be controlled.

e.g. Area 21 Hallway Lights
Area 22 Stairwell Lights
Area 23 Front Entry Lights.

The Area must be turned On for the function to operate.

- 4.1 Create a new Area and program a name.

- 4.2 Set the “External Siren Mode” to “Instant”.
- 4.3 Set the “N” option (No Siren Cancel) to Yes in the Area Options. [THDNPWF.] (V3 or later only)
- 4.4 Ensure that a Siren List IS NOT assigned to the Area. (Set to SL000)
- 4.5 Program a Siren Time. (1 to 255 minutes)
This is the time period that the Auxiliary (or Aux List) will remain on, if no movement is detected. Each time movement is detected on any Input in the Area that uses a Process Group with the “Siren Re-trigger” option set to Yes, the Siren timer will be re-started.
- 4.6 Program the “Siren Auxiliary”. This is the Auxiliary OR Auxiliary List to be controlled.
Note that no Siren outputs will be activated because there is no Siren List assigned to this Area.
- 4.7 If an Auxiliary List is assigned, set the Auxiliary List control options [O F o f] to Y n n Y.
- 4.8 Assign the Input/s to the Area using the Process Group programmed for this function.

5. Enable / Disable the feature.

Enabling and Disabling this feature is simply a matter of turning the Area On to Enable; and turning it Off to Disable.

The Area can be turned On and Off automatically if required, or manually by Users according to the User Programming, or with a Keyswitch or Pushbutton input, etc.

This table provides a summary of Area Control options.

Refer to Programmer's Reference section for programming details.

Method of Control	Programming Required
User via PIN code or Card	See <i>User Programming</i> . (<i>Area Lists, User Types & User Codes</i>)
Automatic based on Time of Day / Day of Week.	Program a TimeZone [MENU, 5, 2] and select Area Control function.
By a Keyswitch, Pushbutton, Input, etc.	Program a Function Zone [MENU, 7, 5, 3] utilizing the Area Control options.
By an Auxiliary.	Program a Calculated Auxiliary [MENU, 7, 5, 4] and select the Area Control Action.
Remotely via Touch tone telephone. (V3 or later)	Program Answer Call Comms Task [MENU, 7, 3, 1] and DTMF Control [MENU, 7, 3, 3]
Remotely via P.C.	Program PCDirect or ACCEPT Comms Task [MENU, 7, 3, 1]

USER COUNTING IN AREAS (V2 OR LATER)

This feature is an enhancement to Access Control operation and enables an Auxiliary to be controlled when the number of Users in an Area reaches and/or drops below a pre-defined number.

The Count Auxiliary can then be used to disable/enable access to Areas such as Car Parks, adjust environmental conditions in an Area (e.g. Air volume through ventilation systems), etc.

A feature to allow automatic arming of an Area when the Area count decrements to “0” is also available.

As Users Enter through an Access Controlled Door, the number of Users in the Inside Area (if defined) is incremented by 1, while the number of Users in the Outside Area (if defined) is decremented by 1.

Users exiting through the same door will decrement the count in the Inside Area and increment the count in the Outside Area. (In this case it is assumed that Readers are used on both sides of the door)

In Area programming, a trigger count can be set so that the “Count Auxiliary” will be turned On or Off when the number of Users in the Area reaches that count.

User counting in Areas is active regardless of the Area status (On or Off).

1. Program the Reader Module Counting options [MENU 7, 2, 4]

IF User Counting is to be used to automatically turn On the Area that you are leaving when the Area Count decrements to 0, the appropriate Area Arming option must be selected.

If using this option, please take into account that the User Count needs to be accurate or the Area may be left un-armed. Users “tailgating” (two or more Users entering on one card presentation) or “double badging” (card is used twice to access the door because user didn’t proceed through door on first occasion) will produce an incorrect count.

Users need to be very diligent and/or User movement needs to be controlled with turnstiles, Hard Anti-passback processing etc. to ensure the count accuracy.

(Note that the User Count will automatically be reset to “0” whenever the Area is turned On by another mechanism)

1.1 Check Reader Module programming as described in the Basic Programming Guide under “Doors”.

1.2 Select the Reader Arming Mode, “Exit Area if Count = 0”

2. Program the Area Counting options. [MENU 7, 1]

2.1 Assign the “Count Auxiliary” to be activated.

This Auxiliary is the mechanism used to:

- Disable a Door’s Access Group when Area (e.g. Car park) is full. (via Qualified TimeZone)
- Interface to electrical/electronic signage. (e.g. “Car Park Full”)
- Interface to environmental control systems. (Ventilation, etc.)
- Cause a Zone Alarm to report when Trigger Count is exceeded and/or met. (via Calculated Auxiliary “Trigger Zone” option.)

2.2 A “Number of Users” field is available to allow the current User Count to be viewed and/or edited if required.

2.3 IF a “Count Auxiliary” is assigned, program the “Count Control” options. [O F o f]

- Count Auxiliary **ON** when Trigger Count is met.
- Count Auxiliary **OFF** when Trigger Count is met.
- Count Auxiliary **on** when Trigger Count + 1 is met.
- Count Auxiliary **off** when Trigger Count + 1 is met.

2.4 IF a “Count Auxiliary” is assigned, program the “Trigger Count”.

3. Program the Doors [MENU, 7, 6]

- 3.1 Check Door programming as described in the Basic Programming Guide under “Doors”.
- 3.2 Assign an “Inside” and/or “Outside” Area as required for User counting in these Areas.
- 3.3 Program the “Door Options”. [E]
 -Set the “E” (Extra Area Counting) option to Yes IF User Counting is to be performed in the User’s “Extra Area” instead of the “Inside” and “Outside” Area/s.

If this option selected, the Outside Reader will increment the count in the User’s Extra Area, and the Inside Reader will decrement the count in the User’s Extra Area.

4. Program the Calculated Auxiliary Count options [MENU, 7, 5, 4]

It may be necessary to provide an option to Clear the Area Count to 0.

This can be performed in a number of different ways. (*See table below*)

Depending on the method to be used, other functions will need to be programmed to produce the Auxiliary On/Off operation that will in turn be used in the Calculated Auxiliary to Clear the Count.

- 4.1 Select a new Calculated Auxiliary to program.
- 4.2 Select the Calculated Auxiliary Action.
 -Area Count=0 +ON. The Area Count will be reset to 0 when the 1st Auxiliary turns On.
 -Area Count=0 -OFF. The Area Count will be reset to 0 when the 1st Auxiliary turns Off.
- 4.3 Define the “Area”. Only a single Area can be defined. A separate Calculated Auxiliary will need to be programmed for each Area that requires the Count to be cleared.
- 4.4 Define the “1st Auxiliary”.

The table below defines the additional function that will need to be programmed to produce the Auxiliary operation required.

Note that more than one method of activating the Auxiliary may be used.

e.g. A TimeZone may be programmed to turn the Auxiliary On for several seconds at 1 AM every morning to clear the Area Count ready for the next day. The same Auxiliary may also be turned On for several seconds by a User with a Keyswitch or Home Auxiliary at any other time that they decide the count needs to be cleared.

(Note that the User Count will automatically be reset to “0” whenever the Area is turned On by another mechanism.)

Method of Control	Programming Required
User via PIN code.	Program a Home Auxiliary [MENU, 7, 5, 5] , plus Auxiliary Timer [MENU, 5, 5]
Automatic based on Time of Day / Day of Week.	Program a TimeZone [MENU, 5, 2] and select "Auxiliary On/Off Sec" Control function.
By a Keyswitch, Pushbutton, Input, etc.	Program a Function Zone [MENU, 7, 5, 3] utilizing the Auxiliary Control options, plus Auxiliary Timer [MENU, 5, 5].
Remotely via Touch tone telephone. (V3 or later)	Program Answer Call Comms Task [MENU, 7, 3, 1] and DTMF Control [MENU, 7, 3, 3] utilizing the Auxiliary Control options.
Remotely via P.C.	Program PCDirect or ACCEPT Comms Task [MENU, 7, 3, 1] , plus Auxiliary Timer [MENU, 5, 5].

ZONE INPUT TESTING:**- ZONE SELF TEST****- WALK TESTING (V3 OR LATER)****- AREA PRE-ARM WALK TESTING (V3 OR LATER)**

These features enables automatic and/or manual Zone Testing to be performed on the system.

Zone Self Test.

Zone Self Test is designed to automatically check that movement detectors are operational. (Not just sealed)

When Zones are being tested prior to an Area (or Areas) being armed (turned ON) and a Zone belonging to that Area is unsealed, a message is displayed indicating that the problem must be rectified or the Zone must be isolated. (Area Pre-Arm Testing)

Additionally if the Zone is sealed, then a Zone self test *may be* performed depending upon how many times the Area has been turned ON since the last Zone self test for that Area.

For each Area a "Self Test ON Count" can be programmed. If the count is set to a non-zero number then the Area must have been turned ON at least this many times before a Zone self test will be performed.

When a Zone self test is performed for Zones belonging to an Area, the system checks to see if all Zones have gone to the alarm condition (even if it did not create an alarm) at least once since the last Zone self test was performed. If a Zone did not, then a "Test Fail" review message is saved for that Zone, otherwise the test passes for that Zone. When the first Zone fails Zone test the Control Module System Input "Zone Self Test Fail" will be triggered (Alarm/Tamper on C01:S17).

Example 1: An office Area is turned ON 5 days a week. During the day whilst the office is OFF it is expected that all PIRs will at least have one activation. In this case the PIRs will be set to "Zone Self Test" and the office Area will be set with a "Self Test ON count" of 001. Every time the office is turned ON and a detector has not been alarmed during the day a "Test Fail" message will be generated.

Example 2: A warehouse Area may have some detectors that are only activated once every 3 days or so. If the warehouse is turned ON once per day then set the "Self Test ON count" to 004.

Note that Zone self test is not meant to be seen as an indication of a definite problem, but rather to indicate that there may be a problem which needs rectifying.

Walk Test.

Walk Testing allows users to test that all Zone Inputs in a specified area can cause a seal to alarm transition and that they are currently all sealed. The test can be initiated manually at any time or can be programmed to occur every time an area is turned On (armed).

Manual Walk-test

A manual walk-test is initiated by a User (apart from user 1) accessing the test menu (<MENU>, 4). The User is prompted for an Area to test (alphabetic search). If the Area selected is in that Users Area Off List, then the Walk test will be initiated. If a module is not present that contains a required zone to test, then the Walk-test is aborted with the message "Test Abort – Lan Fail" being logged to Review.

When the Walk Test starts, the screen will show the 1st Zone not tested or not in the sealed condition. The screen will refresh every 5 seconds accompanied by a beep. As the zone is tested (seal to alarm to seal transition) the screen will automatically advance to the next untested/unsealed zone.

The User can manually advance the display to the next untested Zone by pressing any <Digit> key and can also abort the test at any time with the <END> key. (Note that if the test is aborted, then next time the area is armed and zone self test is required, some zone self test fails may be generated.)

When all zones are tested/sealed the screen will show "Test Passed. Push OK key", repeated every 5 seconds. Push the END key or OK key to finish the test.

If the Walk Test is not completed within the Area Maximum test time (or within 10 minutes if no Test time programmed) the test is aborted.

Area Pre-arm testing

With NO Walk-test options set.

When a User performs the Area On (or Area List On) operation, the system first checks that the Zones assigned to the Area are all sealed (Unless the Zone has the “No Test on Exit” option set to Yes). If a module is not present that contains a required zone to test then the turn on is aborted with the message “Test Abort – Lan Fail”.

If any Zones to be checked are unsealed, the screen will show the 1st zone not in the seal condition. The screen will refresh every 5 seconds accompanied by a beep. As the zone is sealed, the screen will automatically advance to the next unsealed zone. If a Zone cannot be sealed and needs to be isolated, the User can press the <OK> key, and will then be prompted to press the <OK> key again to Isolate the Zone.

The User can manually advance the display to the next unsealed Zone by pressing any <Digit> key (except <1>) and can also abort the test (and “turn On” procedure) at any time with the <END> key.

(If User 1 is logged on, the <1> key will turn on area un-conditionally.)

When all zones are sealed the screen will show “Area is now on” and will turn on the area.

If the unsealed zone testing is not completed within approximately 4 minutes the test (and “turn On”) is aborted.

With Walk-test options set.

When the Area Walk-test option is set, the tests prior to turning on are divided into 2 parts. The 1st part tests that all Zones are sealed as above. The Zone Self Test logic is performed if required, with the appropriate review entries. If this test is successful (i.e. all zones sealed) then the 2nd part of testing (the Walk Test) begins.

If any Zones have failed Zone Self Test above because the Area self test arm count had expired, than the User is given the opportunity to test the Zone by causing a seal to alarm transition. The Zone must also be returned to the sealed condition.

The Area Pre-Arm Walk Test operation is similar to the Manual Walk Test with the following additional functions.

The <OK> key will abort the test and allow the Area to turn On.

The <END> key will abort the test and the turn On procedure.

If the Walk Test is not completed within the Area Maximum test time, the test is aborted and the Area will turn on unconditionally. When only 1 minute of testing time remains, the screen will alternate with a screen that displays “Area about to turn on”. Area Pre-Arm Walk Testing is not allowed when turning on Area Lists.

Area Pre-Arm Walk-test System Inputs.

Four Control Module System Inputs are available to monitor and/or report Pre-Arm Test Results.

C01:S24	Pre-Arm 1 Test.	In Alarm during Pre-Arm Walk Test on any Odd Area.
C01:S25	Pre-Arm 1 Test Fail.	Alarms if Pre-Arm Walk Test aborted with the OK key on any Odd Area.
C01:S26	Pre-Arm 2 Test.	In Alarm during Pre-Arm Walk Test on any Even Area.
C01:S27	Pre-Arm 2 Test Fail.	Alarms if Pre-Arm Walk Test aborted with the OK key on any Even Area.

Pre-Arm Walk Test and Manual Walk Test when using Sub-Areas.

If a Pre-Arm Walk Test or Manual Walk Test is initiated on an Area that has a Sub-Area assigned, and the operation will result in the Sub-Area being turned on, all “Zone Self Test” Zones in the Sub-Area will also be included in the Walk Testing.

Zones in the Sub-Area will not be included in the Walk Testing if the operation will not result in the Sub-Area being turned on. i.e. If the Sub-Area is also the Sub-Area of one or more other Areas that will remain Off.

Programming details commence on the following page.

1. Program/Edit the Input/s that are to be tested. [MENU 7, 0]**1.1 Program the Input Options relevant to Testing. [S C X S R A N T]**

-Set the “N” (No Test on Exit) option to Yes IF the Input is not to be tested for Seal when the Area is turned On. This option is only used for Entry/Exit type Zones that are likely to be unsealed when the Area is turned On. e.g. A PIR that detects movement around the LCD Terminal or a Contact on an entry Door that remains open until after the Area is turned On. e.g. Entry to a retail store in a shopping centre.

-Set the “T” (Zone Self Test) option to Yes for any Input to be included in Zone Self Testing, Manual Walk Testing or Area Pre-Arm Walk Testing.

2. Program the Area Test Options. [MENU 7, 1]**2.1 Program the “Zone Self Test ON Count”. This option sets the number of times this Area must be switched ON before a Zone Self Test is performed. The count value can be from 000 to 255.**
If the count is programmed to 000 then no Zone self testing will be performed for the Area.**2.2 An Auxiliary output may be required to enable automatic testing of devices such as Smoke Detectors, Glass Break detectors and Seismic detectors, etc. during Area Pre-Arm Walk Testing. (If the devices have a Test input available)**
If required, program the Area “Test Auxiliary”.**2.3 Program the “Test Options” for Walk Testing and Area Pre-arm Walk Testing. [. . F Q X A W E]**

-Force all Zones to be Tested. If set to Yes, all Zones with the “Zone Self Test” option set to Yes will be tested regardless of whether a Seal to Alarm transition has occurred since the Zone was last tested.

-Qualify Test. If set to Yes, the Test cannot finish unless the Qualify Auxiliary (Area Test Auxiliary) is Off. Enables a guaranteed minimum Test time to be implemented by assigning an Area Test Auxiliary, then programming an Auxiliary Timer [MENU, 5, 5] for the Test Auxiliary.

-Test Auxiliary. If set to Yes, turns On the Area Test Auxiliary at the start of Walk Testing and Turns Off at end of Test. (Unless already Off by another mechanism. e.g. Auxiliary Timer)

-Arm all Zones for Walk Testing. Not normally Used. If set to Yes, Zones will be processed as per their Process Group parameters (except for reporting) during the Walk Test. Only used when the devices that are programmed to be activated by an alarm in the Area (via Area Auxiliaries) are also to be tested. Note however, that any Auxiliaries activated will then have to be turned Off again by turning the Area Off or by some other mechanism.

-Enable Walk Testing. Set to Yes if Area Pre-Arm Walk Testing is required in the Area.

-Exit to Display Counters. If set to Yes, at the end of the Test, the LCD Terminal will exit the current Menu option and jump to the Read Counters screen. [MENU, 1, 4] This enables the User to view the results of any Testing that involves devices that are monitored with a Counter. e.g. Cameras, Plant equipment, etc. *See separate Application note, “Event Counting” for details of Counter programming.*

2.4 Program the “Maximum Test Count”. This determines the maximum time allowed for Area Walk Testing. The Count value is the number of 5 second display refresh periods.
(The LCD Terminal display is refreshed every 5 seconds during Walk Testing)
e.g. If a value of 60 is entered here, the maximum test time allowed will be $60 \times 5 = 300$ seconds (or 5 minutes)

This option must be programmed with a value other than “00” for Area Pre-Arm Walk Testing. For Manual Walk Testing via <MENU>, 4, the maximum test time will be 10 minutes if the Max Test Count is set to “00”.

3. Check/Program Menu Groups. [MENU 2, 4, 1]

Before any User Types can perform Walk Testing via the Menu (<MENU>, 4) OR Isolate Zones when turning an Area On (Arming), access to the appropriate options must be allowed in their Menu Group.

IF any LCD Terminals have a Menu Group assigned, access to the Test Menu must also be allowed in this Menu Group if Walk Testing is to be performed at the Terminal.

- 3.1 Program/Edit the “Menu Group Options” in the relevant Menu Groups. [R I D C S A M T]
-Ensure that the “T” option (Isolate on Exit) option is set to Yes IF this function is allowed.
- 3.2 Program/Edit the “Menu Options” in the relevant Menu Groups. [R A I T t . S C]
-Ensure that the “T” option (Test Menu) is set to Yes IF access to the Test Menu is allowed.

1. Program the Area Pre-Arm System Input/s. [MENU 7, 0]

- 1.1 IF monitoring and/or reporting of Area Pre-Arm Walk Test operation and/or Test Fail is required, program the relevant System Inputs (listed below) and assign them to an Area [MENU, 7, 1] with the appropriate “System” Process Group/s [MENU, 2, 4, 3].

C01:S24	Pre-Arm 1 Test.	In Alarm during Pre-Arm Walk Test on any Odd Area.
C01:S25	Pre-Arm 1 Test Fail.	Alarms if Pre-Arm Walk Test aborted with the OK key on any Odd Area.
C01:S26	Pre-Arm 2 Test.	In Alarm during Pre-Arm Walk Test on any Even Area.
C01:S27	Pre-Arm 2 Test Fail.	Alarms if Pre-Arm Walk Test aborted with the OK key on any Even Area.

NOTE: If the Pre-Arm Test Fail System Inputs are being monitored, it may not be necessary to monitor the “Zone Self-test Fail” System Input (C01:S17) as well.

The table below provides a summary of the Programming options required to achieve each of the Zone Input Testing options available. “Yes”, “No”, “Non Zero” or a value entry indicate that the option must be programmed in this way. “Option” indicates that the option is an enhancement available for different system requirements.

Option	Area Pre-Arm Testing			Manual Walk Test
	Test for Unsealed Inputs	Zone Self Test	Walk Test	
INPUT Options No Test on Exit Zone Self Test	no	Yes	Yes	Yes
AREA Test Auxiliary			Option	
AREA Self Test ON Count		Non zero	001	
AREA Test Options Force all Zones to Test Qualify Test Test Auxiliary Arm all Zones for Test Enable Walk Testing Exit to Counters			Option Option Option Option Yes Option	
AREA Maximum Test Count			Non zero	Option
MENU GROUP Opts. Test Menu allowed.				Yes
PRE-ARM SYSTEM INPUT PROGRAMMING			Option	

ZONE MULTIPLICATION

This feature enables multiple detection devices and/or contacts to be wired together into a single general purpose Zone Input on a Model 3000 or Access 4000.

IMPORTANT NOTE:

It is usually recommended that each detection device is wired to a separate Zone Input.

This allows:

- Programming options to be set for each individual device as required.
- The device to be individually identified in alarm messages and in the Review log, etc.
- The device to be individually identified when reporting to the Central Monitoring Station.

Zone multiplication allows for multiple devices to be wired to a single Zone Input and should only be used when the system specification allows, and only when absolutely necessary as all devices wired to the Zone Input will be processed and logged as a single alarm point in the system.

Installation Notes:

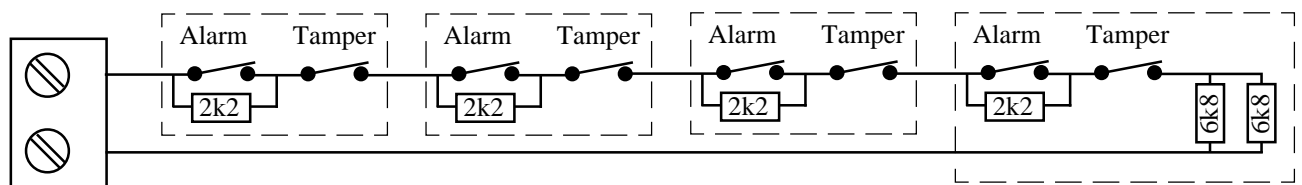
- 1) The maximum number of devices that can be wired to a single Zone Input is four.
- 2) The wiring technique described below can only be used on general purpose Zone Inputs requiring End-of-Line Resistors. Do not use this technique on LCD Terminal Zone Inputs or Inputs dedicated to specific functions such as Arming buttons, REN (Request to Enter) or REX (Request to Exit) Inputs.
- 3) No special End-of-Line resistor values are required as the circuit uses the resistors already supplied in the installation kit.

Wiring Multiple Devices to a single Zone Input.

2 x 6k8 Resistors are connected in parallel at the last detector in the loop to provide an EOL value of 3k4 for the “Seal” condition. (See diagram below) A single 3k3 Resistor may be used if preferred.

One, two or three additional devices can be connected in series as shown.

This wiring method is suitable for devices where the Alarm and Tamper contacts are Normally Closed in the Seal (normal) state.



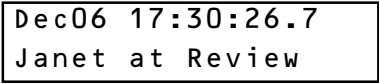
Wiring a Normal Zone Input.

(Shown for reference)



Information Menu

REVIEW



Allows a User to view the list of review events stored in the memory. This may be necessary to find out details of user activity or past alarms, etc.

The Display will show the last review event, which will probably be a record of yourself accessing the Review Menu.

The <0> key is used to go to the start of review (earliest event still stored) and the <9> key is used to go to the end of review (last event saved).

<UP> (back) and <DOWN> (forward) Arrow keys are used to search review, one event at a time.

<LEFT> Arrow forces display to the start of the text.
<RIGHT> Arrow scrolls text one character at a time.

REVIEW FILTER:

The DIGIT keys, 1 to 8 can be used to search back through review for specific types of events, beginning from the date/time of the event currently displayed.
As there are more than 8 review filter categories that can be selected, the “Mode” can be changed by pressing the ON and OFF keys, allowing selection of more categories.
You can use these filter keys in conjunction with the UP and DOWN Arrow keys to locate a specific event and then review all the other events around it in more detail.



OFF = Mode 1. ON = Mode 2.

MODE 1.

MODE 2.

Key	1	Alarms & Restorals.	System messages.
	2	Reports.	Times.
	3	Auxiliary On & Offs.	Detail.
	4	Siren On & Offs.	Communications.
	5	User operations.	Lifts.
	6	Area On and Offs.	Cards. (V3 or later)
	7	Isolates/De-isolates.	Spare.
	8	Modules.	Errors

NOTE:

Use **HELP** to view the list of review filter categories available.

LOCATE USER



In some systems INSIDE and/or OUTSIDE Areas will have been assigned to Access Controlled Doors. "LOCATE USER" can then be used to display the Area that the user is currently in.

Not Located -
Graham

The display will show the Area name on the top line and the User name on the bottom line.



R & D LABORATORY
Raymond

To search for a particular User alphabetically, press the <DIGIT> key that represents the first letter of the User's name. (You may have to press the key 2 or 3 times, depending on the letter required and the User names in the system.)



TEST DEPARTMENT
Rebecca

If the User name you want is not displayed because of other names beginning with the same letter, use the <DOWN> Arrow key to locate it.

In this mode the <UP> and <DOWN> Arrow keys can be used to scroll through the list of Users.



To find a particular User by number, press the <ON> key to change the display mode.



U00019 is in
Not Located -

Use the <DIGIT> keys to enter the User number required. The <RIGHT> Arrow key may be used to advance the cursor. The <OFF> key may be used to clear the user number before you begin.



INWARD GOODS
Lorie

Press the <ON> key again to view the Area and User's name.

READ ANALOGUE VALUES



In some systems Analogue Input modules are installed to monitor variable parameters such as Temperature, humidity, fluid levels, etc.
 "READ ANALOGUE" can then be used to display the current values of the analogue inputs. (V3 or later only)

Analog module
to view: Q01

The display will prompt for an Analogue Module number to view.



The <UP> and <DOWN> arrow keys can be used to search for a particular Analogue Module,



OR

Use the <DIGIT> keys to enter the Analogue Module number.



Press the <OK> key to select the module number displayed.

COOLSTORE TEMP
+ 0004

The display will show the value of the first Analogue input on the selected module.



The analogue value is updated every 2 seconds. Updates will timeout after 2 minutes. The <ON> key can be used to refresh the display.

WATER LEVEL (L)
+ 183

Press <OK> to scroll through the Values for the other Zones/Inputs on the same Analogue Module.



Use the <UP> and <DOWN> Arrow keys to scroll through the Analogue values for the same Zone input number on other Analogue Modules.



Press the <END> key to exit to the normal display.

Q01:Z03
+ 0255

NOTE: All Analogue Zone Inputs used in the system should always be named by the Installer. A screen similar to this showing the default Zone ID will be displayed for Zones that are not used.

READ COUNTERS

MENU 1 4
ABC JKL

Camera 1 Film
Count: 0254

^ v

Water Used (kL)
Count: 00012759

END

.Counter 003
Count: 00000000

In some systems Mini Expander modules are installed to perform Event Counting. Counters can be used to monitor film in security cameras, water or electricity usage, traffic through a designated point, etc.

“READ COUNTERS” can then be used to display the current value of the counters. (V3 or later only)

The display will show the result of the first Counter available to be viewed.

The <UP> and <DOWN> arrow keys can be used to scroll through the results of the other counters.

The displayed count is refreshed every 2 seconds by reading the latest count from the relevant Mini Expander module.

Press the <END> key to exit to the normal display.

NOTES:

1) All Counters used in the system should always be named by the Installer. A screen similar to this showing the default Counter ID will be displayed for Counters that are not used.

The installer can disable display of unused Counters.

2) In some applications it may be necessary for a User to adjust the current value of a particular counter, or reset the counter to zero.

This can be done via a separate Menu option that will probably be restricted to one or more User Types. Details are provided in “Adjust Counters”, [MENU, 9, 6].

VIEW INPUT STATES



The system can be programmed to allow Users to view a summary of specific Zones that are enabled and currently in an abnormal condition. "INPUT STATES" can then be used to display the summary. (V3 or later only)

You may need to use this function when the LCD Terminal displays a message such as:

"Some Inputs are Tampered"

"Some Inputs are Isolated"

etc.

Isolated Input:
CustomerArea PIR

The display will show the first Zone that is in an abnormal state.

The summary is prioritised in the following order:

- 1) Isolated Inputs
- 2) Tampered Inputs
- 3) Unsealed Inputs



Unsealed Input:
Teller Area PIR

The <DOWN> arrow key can be used to scroll through the list of other abnormal Zone states.

Finished
Check

When the bottom of the list is reached, the display will show "Finished Check" to indicate that there are no more abnormal Zones to view.



Press the <END> key to exit to the normal display.

READ POWER MODULE VALUES



In some systems LAN Power Supply Modules are installed to provide flexible, general purpose, battery-backed power supply solutions with the added advantage of immediate status reporting of Power Supply conditions and problems via the LAN network.

“READ POWER MODULE” can then be used to display the current values of Voltage and Current for both the Battery Charger and Detector Power outputs. (V4.5 or later only)

Four Power Module Parameters can be viewed:

- Battery Charger Output Voltage.
- Battery Charger Output Current.
- Detector Output Voltage.
- Detector Output Current.

Power module
to view: P01

The display will prompt for a Power Module number to view.



The <UP> and <DOWN> arrow keys can be used to search for a particular Power Module,

OR



Use the <DIGIT> keys to enter the Power Module number.



Press the <OK> key to select the module number displayed.

P01 Batt
Volts = 00.0

The display will show the value of the Battery Charger Output Voltage on the selected module.



The displayed value is updated every 2 seconds. Updates will timeout after 2 minutes. The <ON> key can be used to refresh the display.



Use the <UP> and <DOWN> Arrow keys to scroll through the results for the same parameter on other Power Modules.

OR

OR



Press <OK> to advance, in turn, to each of the other Power Module Parameters to be viewed on the same Power Module.

P01 Batt
Amps = 00.0

The display will show the value of the selected parameter on the selected module.

P01 Det
Volts = 00.0

Use the <ON>, <UP> and <DOWN> Arrows, and <OK> keys to refresh the display or view other displays as described above.

P01 Det
Amps = 00.0



Press the <END> key to exit to the normal display.

User Programming

User Programming is the starting point for allowing a person to operate the system.

Three special Users are pre-defined within the system.

User 00001 is known as the “INSTALLER”. The PIN code for this User is defaulted to 01 in the factory and should be changed by the Installer as soon as possible.

User 00001 has special privileges including:

- Exclusive Access to the Installer Menu.
- Access to higher level options in the Access, Times and Service Menus.
- Special options is the Test Menu.
- Remote access enabled regardless of the setting of the “Remote Access” option in the Menu Group assigned to this User's User Type. (Installer must not be locked out by “Master” User)

User 00002 is known as the “MASTER” and is usually assigned to the owner of the system or the person responsible for security. The PIN code for this User is defaulted to 02 in the factory and should be changed by the installer or system owner/administrator as soon as possible.

Special privileges for User 00002 include:

- The ability to program/edit all other Users (except User 00001)
- Remote access enabled regardless of the setting of the “Remote Access” option in the Menu Group assigned to this User's User Type.
- The option to lockout / enable INSTALLER access (If feature is used)

User 00003 has no defaults pre-defined and is the same as a normal User except that Remote Access will always be enabled regardless of the setting of the “Remote Access” option in the Menu Group assigned to this User's User Type.

The procedure to reset this User Code section to the factory default is explained in more detail at the end of this chapter.

User numbering and permission to edit.

When a User's “User Type” allows permission to change User codes (specified in the User Type's Menu Group), the User is only allowed to change User numbers equal to, or higher than their own. (Unless User Ranks are utilised within the system).

For this reason it is recommended to plan the user numbering before programming the Users, so that the numbering will reflect the authority required. For example, a system administrator who has permission to change all User codes should be issued a very low user number (eg. 3). A Supervisor who only has permission to change the Users in their own department, should have a user number lower than all the staff in that department, but higher than any User with more authority.

CARD ONLY USERS***ACCESS 4000 ONLY*****Introduction**

All Normal Users in the Concept 3000/4000 have the following basic features:

- Card Details
- Pin Number
- User Type

Some or all normal Users have the following features:

- User Name
- Expiry Date
- Additional Area (V2 or later)
- Additional Door (Special Option in V4.5 or later)
- Additional Door List (Special Option in V4.5 or later)
- User Rank
- Extra Yes/No Options

Concept Access 4000 introduces the “Card Only User”. Card only Users are only available in certain 512k Memory configurations and are identical to normal Users except that only the features below are available:

- Card Details
- User Type
- Additional Door (Special Option in V4.5 or later)
- Additional Door List (Special Option in V4.5 or later)

A card only user is a user who only uses that access control component of the system. No terminal operation is permitted. A card only user cannot be named and has no expiry date, additional area, user rank or extra Yes/No options.

All user numbers start at 00001. Normal users with pin numbers are numbered from 00001 to a maximum of 04096. Card only users are numbered from 04097 to a maximum of 53,249.

The number of normal users, names, expiry dates and card only users depends on the memory configuration. **Card Only Users are only available in Access 4000 512k Memory configurations.** Normal Users can be configured in one “bank” with up to 4096 users. Card only users can be configured in up to six “banks”, with each bank containing up to 8192 card only users. Each bank starts and ends at a particular card number:

User	Starting User	Ending User
Normal Users	1	4096
Card Only User, Bank 1	4097	12288
Card Only User, Bank 2	12289	20480
Card Only User, Bank 3	20481	28672
Card Only User, Bank 4	28673	36864
Card Only User, Bank 5	36865	45056
Card Only User, Bank 6	45057	53249

Practical considerations will in most cases limit the maximum number of users to 10,000 to 20,000. The average search time for a 20,000 user system is approximately 300ms, depending on other tasks at the time.

Programming

Programming of card only users is identical to normal users except that certain programming screens will be unavailable such as user name.

User to
alter: U00001

This screen allows the Installer or administrator to select a specific User to alter, chosen from a possible maximum of 4000 users or, thousands more if "Card Only" Users are available and memory size and configuration allow. (Note that Card only users start at U04097). On pressing the ON key the operator is allowed to search alphabetically for the name of an existing User using the digit keys and up and down arrows.

Find User Name ^
J SMITH

User 00001 Name
J SMITH

This screen allows names to be defined for some or all Users, depending on memory configuration. Names may only be defined from User 00001 to a particular maximum. This question will not be asked if a name cannot be assigned to this User. Names are up to 16 characters long.

U00001 type ->
MANAGER

This screen allows a User Type to be selected for this User. The User Type specifies all the Security and Access attributes for this User. Pressing the right arrow key will cycle through all defined User Types. Pressing the OFF key will set the User Type for this User back to "None". Setting a User Type to None is the same as cancelling a User - all their security and access permissions will be cancelled but can be reinstated again by simply setting the User Type back to the desired type.

U00001
type: UT001

If the On key is pressed, the User Type can be selected by its number.

User 00001
PIN No. ####

This screen allows an optional PIN code to be defined for a User for use with LCD Terminals within the system. PIN codes can be between 1 and 8 digits. The User Type will determine how and when a PIN code is used and what it is allowed to do. Pressing the OFF key will clear the code. When entering a PIN number, the digits will be displayed as they are pressed but once the OK key is pressed a PIN number can only be viewed by the User who owns it.

If a duplicate PIN is entered, the PIN will not be allowed and the original owner of the PIN will be notified when they log in next that their "PIN Discovered".

CARD TYPE

U00001 Crd Typ->
Credit Card

This screen specifies the type of access Card that is going to be used by this User if an access Card is allocated. The OFF and right arrow keys are used to select the desired Card Type:

Credit Card

This Card Type is selected when Credit Cards are going to be used in swipe Readers. The Card can be entered by typing in the account number or by swiping the card.

Site Code

This Card Type selects the traditional access Card method where each Card is numbered according to the User. Cards may be swipe or Wiegand format Cards. A "Site Code" is often stored on the Card to determine if the Card will be accepted at this site.

Direct Entry

In Direct Entry mode the Card number is independent of the User and a Card offset does not need to be used. This Card Type selects a direct entry method where all Card information is saved for each User and can only be used for Wiegand and Swipe formats. The Card information can be entered at the keypad or a Card can be "scanned" at a Reader.

NOTES:

1. The format option must be correctly set in Reader Module Programming for any of the above options to work correctly.
2. "Test Cards" [MENU 4,5] may assist in determining an unknown Card Type.

The screens that follow depend on the Card type selected.

Credit Card Type Only

U00001 Accnt No.
(No Card)

This screen allows the first 16 digits of the Credit Card account number to be directly typed in for this User. If the bottom line says "No Card" then no account number is stored for this User. If the bottom line says "***Card**" then an account number is already stored for this User. If an account number is already stored it cannot be viewed for security reasons. If a digit key or the OFF key is pushed, then any existing account number will be over-written. (Before entering your account number, press the OFF key to clear the screen).

U00001 Waiting
for Card at R01

If the ON key is pressed, then the credit Card can be entered by simply swiping the Card at any Reader connected to Reader Module #1 or another Reader Module, if specified in the General System options [MENU 7,5,1] "Reader for User Programming". The Card must be swiped within 10 seconds. The screen will then change to the next screen in the series.

U00001 Accnt No.
** Card **

This screen allows Credit Card account numbers greater than 16 digits to be entered.

U00001 Accnt No.
(cont.) No Card

The first 16 digits may be entered on the previous screen whilst this screen allows up to 8 additional digits to be entered. (Before entering the account number, press the OFF key to clear the screen. If the account number is less than 17 digits and this screen is not required, just press OK).

Site-Code Card Type Only

This screen allows any Card number to be assigned to any site-code User.

It is only necessary to alter the default Card Number displayed if the User's Card ID number is different from their User Number. It may be possible to use a Site Code Offset to align Card ID numbers with User Numbers.

It is recommended that Card ID and User Number be the same wherever possible. The default value is a Card number equal to the User Number. This number can be set to any value between 00001 and 65535. If the number is set to zero, then the default value of the User Number will be programmed. By allowing any Card number to be assigned to any User, Card numbers do not have to be in sequence. If a Card is lost, that User can be assigned another Card and still retain their User programming.

The actual Card number searched is altered if a Site-Code Offset is programmed. The Site-Code is subtracted from the Card number before the search of the Users commences.

Operation:

The sequence below shows the logic that Concept applies in determining which User to assign which Card.

- Check Card Site Code for a matching value in the Site Code table. Only search for Site Codes that are enabled.
- Check if the Site Code has an offset programmed. If so, subtract the offset value from the Card number. If the offset value is equal to the Card number, no search will take place. If the offset is greater than the Card number, the resulting Card number is equal to - offset + 65535.
- Search all User codes starting at U00001 for a match between the User Card number and the Card number derived above. Only search Site Code Users.
- If a match is found, check that the issue number also matches. If it does, a User has been found.

Examples

Scenario	Card IDs	User IDs	Offset	Solution
Cards are in sequence	00001 to 00100	U00001 to U00100	Not Required	No problem as User ID = Card ID
Cards are mixed	28401, 15745, 164	U00010 to U00012	Not Required	Manually enter each Card ID for each User (U00010 = Card 28401, etc)
Cards are in sequence & Card ID must be stepped down to align with User ID	28411 to 28510	U00010 to U00110	If Card ID > User ID, Offset = Card ID - Desired Card number	Programme an Offset of 28401 U00010=Card00010 (28411-28401)
Cards are in sequence & Card ID must be stepped up to align with User ID	00001 to 00100	U04097 to U04197	If Card ID < User ID, Offset = 65535 - Desired Card number *** 65535 is the max. allowable Card number ***	Programme an Offset of 61438 U04097=Card04097 (65535 -61438) *** 65535 is the max. allowable Card number ***

User 00001
Issue No: 000

This screen allows an optional Issue number to be assigned for this User if the Cards used support Issue numbers. Setting the Issue number to 000 will allow any Issue number to be accepted. (If the Card used does not support Issue numbers then set the Issue number to 000). Only the manufacturer's Magnetic Swipe Cards currently support issue numbers.

U00001 Raw Card
Data: 0000000000

Direct Entry Card Type only

This screen allows Raw Card data to be entered for Wiegand format Cards that are going to be read directly with no site-codes. The data must be entered in the Hex format.

U00001 Waiting
for Card

ALTERNATIVELY: If the ON key is pressed, the Card can be entered by simply presenting the Card at any Reader connected to Reader Module #1 or another Reader Module, if specified in the General System options [MENU 7,5,1] "Reader for User Programming". The Card must be swiped within 10 seconds. The screen will then change to the next screen in the series.

U00001 Raw Card
Data: dddddddddd

where dddddddddd is the Card data as read.

Expiry Dates and User Ranks

User Expiry Dates allow an optional date and time to be chosen for each User after which Card or PIN access will be denied. User Ranks allow a method to control who can change which User codes.

Memory Configurations allow for Users with Names only, or a combination of Users with Names and Card Only Users. Only Users with Names can have expiry dates.

NOTE: Do not set an expiry date for User01 or User02 unless it is specifically required.

Users with Names

Users with Names utilise more of the system's Memory and so allow for the inclusion of a smaller number of Users (Up to 4,000). A larger amount of detailed information may be recorded against each User and a greater degree of control is possible for Users with Names. This includes options to set Expiry Dates and User Ranks.

Card Only Users

Only a relatively small amount of information is recorded against Card Only Users. In addition, only limited programming options are available for these Users. The advantage of including such users is that the system can accommodate a large numbers of Card Only Users (Up to 65,000). Card Only Users will be discussed in more detail towards the end of this chapter but the point to note at this stage is that Expiry Dates and User Ranks are not available for these users.

Combination of Users with Names and Card Only Users

Configuration Options allow for the combination of Users with Names and Card Only Users. One such combination would be 500 Users with Names and up to 24,576 Card Only Users. In this case, only the Users with Names would be able to utilise Expiry Date and User Rank programming options.

Expiry Dates

User Expiry Dates are programmed in User Codes (MENU 2,1).

U00005 Expires:
00/00/88 -00:00

This screen shows the expiry date in the format "day/month/year-hour:minute". If the year is set to 88 (1988), which is the default setting when the memory is cleared, the Expiry Date will be ignored for this user. Pressing the OFF key will clear all fields.

U00005 Expires:
/ / - :

When all fields are cleared, the Expiry Date will also be ignored.

To set up an Expiry Date, begin by pressing the OFF button to clear all the fields. Then only fill in those sections of the date and time fields which you wish to use to validate the User's Card or PIN when it is presented.

If any field is left blank, that field will be ignored.

Example

00/00/88-00:00	Ignore expiry date
/ / - :	Ignore expiry date
/ /99 :	User Card or PIN will not work if the year is 1999 or higher.
12/ / - :	User Card or PIN will not work in any month where the date is the 12th or higher
/ / -12:	User Card or PIN will not work past 12:00PM on any day.
03/09/99-12:00	User Card or PIN will not work past 12:00PM on 3rd September, 1999.

User Ranks

When Users are given permission to change User Codes via either their User Type or Menu Group, they are only allowed to change User number equal to, or higher than, their own. For example, if User 567 has permission to change codes he/she can change code 567, 568, 569 and so on. Furthermore, when a User has permission to change User codes he can select any User Type for that code, even one that gives that code more authority than their own User Type. For these reasons the number of people who are given authority to change codes is normally restricted.

The User Rank system is designed to provide better security when it is desirable to give groups of people the authority to change codes. Each User in the system can be assigned a rank. The rank is a list of 8 yes/no flags which determine the "rank" of the User.

U00005 12345678
Rank: nnnnnnnn

This User has no ranks enabled.

U00005 12345678
Rank: Ynnnnnnn

This User has rank 1 enabled.

U00005 12345678
Rank: nnnnnnYn

This User has rank 7 enabled.

U00005 12345678
Rank: YnYnnnnn

This User has rank 1 and rank 3 enabled.

U00005 12345678
Rank: YYYYYYYY

This User has all 8 ranks enabled.

NOTE:

It is very important that you understand how user ranks are programmed and how they operate before attempting to incorporate the facility into your system. It is advised to plan your user rank programming carefully before entering the data. Read the following information for more details of user rank operation.

User Rank Permissions

The 3000 system applies the following rules to validate the extent to which a User, who has general permission to alter Users, can actually make changes or additions to Users.

A Normal User is any User above User 00002. User 00001 (Installer) and User 00002 (Master) are special Users with special privileges.

User logged on with User alter permission.	Users allowed to alter.
User 00001 with "O" security option set to "n"	-All Users
User 00001 with "O" security option set to "Y"	-Only User 00001
User 00002	-All Users except User 00001
Normal User with no rank screen	-Any User above and including their own
Normal User with no ranks enabled	-Any User with no rank screen -Any User with no ranks enabled and above and including their own
Normal User with some ranks enabled	-Any User with no rank screen -Any user that has any matching rank set to yes except User 00001 or user 00002

When a normal User is altering a User Rank screen for another user, they cannot set any ranks to "Yes" unless the corresponding rank for themselves is also set to "Yes". A normal User can always set a User Rank to "no". User 00001 and User 00002 can set or clear ranks for any User.

Example using ranks

Starting with a defaulted system with no ranks enabled, only the master or installer can set any ranks to yes. The master code sets up the following Users to alter other Users as follows:

User	User Rank
U00069	Ynnnnnnn
U00516	nYnnnnnn
U01345	YYnnnnnn

The master code also sets up the following User Types:

User Type	User Type Rank
User Type only to be used by U00069	Ynnnnnnn
User Type only to be used by U00516	nYnnnnnn
User Type to be used by any User	YYnnnnnn

In the above example U00069 or U00516 can define a code from a “pool” of available Users who have no ranks enabled. When they define a User code they set the rank to the same as their own rank so that User becomes “Their User”. They can release a User back to the “pool” by disabling all ranks for that User. U00069 can only modify Users with rank 1 set. U00516 can only modify Users with rank 2 set. U01345 can define or modify Users of either rank.

When choosing User Types for a User, U00069 can choose User Types with rank 1 set, whilst U00516 can only choose User Types with rank 2 set. This way, Users cannot choose User Types that give them more options than their own.

U00001 NDLEG...
Options nnnnnnnn

This screen specifies various options for the User.

- N

No Message Ack.

When set to Yes, if an alarm message is being displayed at a Terminal that the User is logging into, they will not be allowed to acknowledge the alarm message with the “OK” key, even if they have OFF control of the Area in which the alarm occurred. This option can be used to keep the User interface simple for specified Users.
- D

Duress Code

When set to Yes, this PIN code will trigger a “Keypad Duress” System Input (Txx:S05) any time it is entered at a keypad. This allows the programmer total flexibility on how duress codes will work in the system.
NOTES: If set to Yes, It is recommended to set the “No Greeting” option below to Yes also. This prevents the User name from being displayed when logging on. Alternatively program a generic name such as “Staff” that will not identify the PIN code as a Duress Code.
- L

Area List Default

When set to Yes, this option will cause the Area List selection to automatically appear on the LCD Terminal on PIN code entry. This option would be provided for Users who were more likely to operate Area ON/OFF functions using Area Lists, rather than individual Area selection.

Note: When a User is selecting an Area List to Control, any Area List can be selected, however, only Areas that are common to the Area List selected and the User Type’s On List (If turning the Area List On) or Off List (If turning the Area List Off) will be controlled.
- E

Extra Area Off

When set to Yes, this option will cause the Area specified as the User’s “Extra Area” to automatically turn off when the User accesses a Door via a Reader that has been programmed to “Turn Off Extra Area”. Alternatively, if a Reader Arming mode is set to “Extra Area if Zone 8”, the User’s “Extra Area” will turn On if Zone 8 on the Reader Module is unsealed when the User accesses the Door. (See “Extra Areas” below)
- G

No Greeting

When set to “Y”, this option disables the Greeting screen for this User. When the User logs on at the Terminal, the display will go straight to the Area status screen.

**U00001 Ex.Area->
FOYER**

This screen allows an optional "Extra Area" to be allocated to a User. (Only available on Users with names or expiry dates). When an Extra Area is allocated to the User, it appears as though the Area is in the Area ON and Area OFF Lists allocated to their User Type.

Extra Areas

This option is very useful in systems with large numbers of Areas, where the majority of Users are only allowed to control a single Area. Instead of programming many Area Lists, each with only one Area assigned, it is easier to simply allocate an Area directly to the User, using the Extra Area option.

eg. In a shopping centre that contains 100 different shops, the shop owners and staff are only allowed control of Area protecting their own shop. Using the Extra Area option, simply assign the relevant shop Area to each User. If a common Mall Area and secured car-park was to be controlled by all shop owners, then these Areas could be placed in an Area List, and this List assigned to the "Shop Owners" User Type. In this example, only one Area List need be programmed (for the common Areas).

**U00001 Ex. Door->
None**

This screen allows an optional "Extra Door" to be allocated to a User. (V4.5 or later. Only available as a Special Option in 512K Memory Configurations)

When an Extra Door is allocated to the User, it appears as though the Door is in the Door List allocated to their User Type.

**U00001 Ex.DList->
None**

This screen allows an optional "Extra Door List" to be allocated to a User. (V4.5 or later. Only available as a Special Option in 512K Memory Configurations)

When an Extra Door List is allocated to the User, it appears as though the Doors in the List are in the Door List allocated to their User Type.

Extra Doors & Extra Door Lists

These options are very useful in systems with very large numbers of Users and/or Doors and could be used to simplify User programming in the following applications:

- When the majority of Users are only allowed to control a single Door.
 - When Users have a combination of one or more common Doors plus Doors that are unique to their User Type or to themselves.
 - When different types of Access Control Points (e.g. Doors and Car Park Entry/Exit points) need to be managed separately for ease of system administration.
- e.g. Door Access can be assigned in the usual manner via the User Type Door List, while Car Park access can be assigned via the User's Extra Door or Door List.

Two options are available by which to default User Code Programming to factory settings. These are explained below:

User Code Defaulting

User to alter: U00001	At the first User Code Programming screen press HELP, “9”.																
User Defaults -> Don't Default	This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.																
Don't Default	Selecting this option will abort the procedure.																
Clear All	Selecting this option will reset the first two users as follows: <table><tr><td>U00001</td><td>INSTALLER</td><td>PIN = 01</td><td>Type = UT001</td></tr><tr><td>U00002</td><td>MASTER</td><td>PIN = 02</td><td>Type = UT001</td></tr></table> <p>In addition, this option will delete all other User Codes, if present.</p> Selecting this option will reset the first two users as follows: <table><tr><td>U00001</td><td>INSTALLER</td><td>PIN = 01</td><td>Type = UT001</td></tr><tr><td>U00002</td><td>MASTER</td><td>PIN = 02</td><td>Type = UT001</td></tr></table>	U00001	INSTALLER	PIN = 01	Type = UT001	U00002	MASTER	PIN = 02	Type = UT001	U00001	INSTALLER	PIN = 01	Type = UT001	U00002	MASTER	PIN = 02	Type = UT001
U00001	INSTALLER	PIN = 01	Type = UT001														
U00002	MASTER	PIN = 02	Type = UT001														
U00001	INSTALLER	PIN = 01	Type = UT001														
U00002	MASTER	PIN = 02	Type = UT001														
Standard	This option will make no alterations to any other User Codes, if present.																
Push '9' key to Confirm Default	The confirmation screen is displayed. Press the “9” Key to confirm your selection.																
Default Done	The default procedure is confirmed.																

User Type Programming

User Types are used to categorise Users as to which functions they are allowed to perform and the level of access they are to be granted within the system. By pre-programming User Types, User code maintenance becomes very easy. **The procedure to reset this User Type section to the factory default is explained in more detail at the end of this chapter.**

User Type to
alter: UT001

This screen allows a User Type to be selected for programming. There can be up to 250 User Types in a large system. By pressing the mode key (On key) the operator is allowed to search alphabetically for a User Type name using the digit keys and the up and down arrows.

Find User Type ^
FACTORY STAFF

NOTE: User Type 01 (UT001) should not be altered but left at the default setting.

U. Type 001 Name:
FACTORY STAFF

This screen allows a User Type to be entered if allowed. A User Type can be up to 16 Characters long.

UT001 T.Zone ->
WEEKDAY

This screen allows an optional TimeZone to be “attached” to this User Type. When a TimeZone is “attached”, the User Type attributes are only valid when the TimeZone is valid. When the TimeZone is invalid then either no attributes are valid OR the User Type specified below will be used, if programmed. To select a TimeZone press the right arrow key to scroll through all the available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this User Type. (The ON key may be used to change modes to allow a TimeZone to be selected by number if desired).

UT001 TimeZone
TZ001

UT001 Alt.Type ->
MANAGER

This screen specifies which User Type will be used instead of this User Type when an “attached” TimeZone is invalid. To select an alternative User Type press the right arrow to scroll through all the available User Types alphabetically. Press the OFF key if you wish no Alternative User Type. (The ON key may be used to change modes to allow a User Type to be selected by number if desired). If no Alternative User Type is specified then if the TimeZone is invalid, no security/access permissions will be allowed.

UT001 Alt.Type
UT008

Note that the User Type specified here may also have a TimeZone and an Alternative User Type assigned. This allows for more than 1 Alternative User Type to be checked by the system to determine a User's permissions at any given time. The system will check up to 7 alternatives for a User Type with a Valid TimeZone.

UT001 ON List
AL001

This screen specifies which Areas this User Type will be allowed to turn ON via an Area List. Specifying an Area List of AL000 means no Area may be turned ON. Area Lists are programmed elsewhere and are simply a list of Areas.

Note: When a User is selecting an Area List to turn On, any Area List can be selected, however, only Areas that are common to the Area List selected and the User Type's “Area On List” will be controlled.

UT001 OFF List
AL001

This screen specifies which Areas this User Type will be allowed to turn OFF via an Area List. Specifying an Area List of AL000 means no Area may be turned OFF. Area Lists are programmed elsewhere and are simply a list of Areas.

Note: When a User is selecting an Area List to turn Off, any Area List can be selected, however, only Areas that are common to the Area List selected and the User Type's “Area Off List” will be controlled.

**UT001 Menu Grp ->
ALL MENUS**

This screen specifies which Menu Group will be “attached” to this User Type. Menu Group specifies (elsewhere) which operations will be allowed at LCD Terminals. To select a Menu Group press the right arrow key to scroll through all the available Menu Groups alphabetically. Press the OFF key if you wish no Menu options to be allowed for this User Type at any Terminal. (The ON key may be used to change modes to allow a Menu Group to be selected by number if desired).

**UT001 Menu Grp
MG001**

NOTE: Area On / Off operations require access to at least MENU 0 (Area On/Off)

**UT001 Door List
DL001**

This screen specifies which Doors the User Type may be allowed to enter/exit via a Door List. Specifying a Door List of DL000 means no Doors may be entered/exited. Door Lists are programmed elsewhere and are simply a list of Doors.

**UT001 Lift Car
List: LL001**

This screen specifies which Lift Cards the User Type may be allowed to access. Specifying a Lift Car List of LL000 means no Lift Car Readers may be used. Lift Car Lists are programmed elsewhere and are simply a list of Lift Cars.

**UT001 Floor
List: FL001**

This screen specifies which Floors this User Type may be allowed to select after using a Lift Car Reader. Specifying a Floor List of FL000 means no floors may be accessed. Floor Lists are programmed elsewhere and are simply a list of Floors.

**UT001 ..dDUAPC
Options-> nnnnnnnn**

This screen specifies various miscellaneous options for this User Type:

d	disabled Person	User Types with this flag set to “Y” will be given more time to access Lift Cars and Doors. Door Lock Auxiliary time is multiplied by a factor of 4 and Lift Car buttons remain active for the maximum time as set in the “Disabled Time” field in Lift Car Programming.
D	Dual Provider	When set to “Y”, this User is able to provide the First PIN for Dual Code Access.
U	Override Dual User	Override Dual User Code Requirement. When set to “Y”, the request for Dual User Codes or Card and PIN at particular door/s is over-ridden.
A	Override Anti-passback	Override Anti-passback. When set to “Y”, anti-passback rules at any Doors are over-ridden for this User.
P	Cancel on PIN	Cancel on PIN. Whenever PIN access is granted through a Door, any User with this User Type will automatically be cancelled by setting the User Type for this User to zero.
C	Cancel on Card	Cancel on Card. Whenever Card access is granted through a Door, any User with this User Type will automatically be cancelled by setting the User Type for this User to zero.

UT001 12345678
Rank:-> nnnnnnnn

This screen specifies the user ranks allocated to this User Type.

User Types have a rank screen exactly the same as the rank screen for a User. When choosing the User Type to allocate to a User, special rules apply:

User logged on with User alter permissions	User Types allowed to select
User 00001	All User Types
User 00002	All User Types
Normal User with no rank screen	All User Types
Normal User with no ranks enabled	Any User Type with no ranks enabled
Normal User with some ranks enabled	Any User Type that has any matching rank set to yes.

Note that these rules mean that if all User and User Type rank screens are left with no ranks enabled, then operation will default to standard operation. That is, Users are only allowed to change Users equal to or higher than their own, and any User Type can be selected.

UT001 Valid Aux
C01:X04

This screen allows an optional auxiliary to be specified that will turn ON whenever a User with this User Type enters their PIN number at an LCD Terminal, OR presents their Card at a Reader.

UT001 12345678
Auxes-> Ynnnnnnn

This screen specifies which type of “Home Auxiliaries” are allowed to be controlled by this User Type. *See “Home Auxiliaries” for more details.*
(Only relevant to Home Auxiliaries that require the User to logon to an LCD Terminal and select via the Control Menu; <MENU>, 9, 1. Home Auxiliaries that can be controlled via the Right Arrow key without logging on are not affected.)

User Type Defaulting

Two options are available by which to default User Type Programming to factory settings. These are explained below:

User Type to
alter: UT001

At the first User Code Programming screen press HELP, “9”.

U.Type Defaults->
Don't Default

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

This option will clear all User Types.

CAUTION: Selecting this option will also clear the first User Type, UT001. i.e. The User Type name will be reset to “.User Type 001” and all Lists, Groups and options are set to none.

Standard

Selecting this option will reset the first User Type to the factory default settings as follows:

UT001 OWNER List / Groups are all set to 1

This option will make no alterations to any other User Types, if present.

Push '9' key to
Confirm Default

The confirmation screen is displayed. Press the “9” Key to confirm your selection.

Default
Done

The default procedure is confirmed.

Area List Programming

An Area List is primarily used to define those Areas that a User may turn On and Off. An Area List is also used to define those Areas which may be automatically turned On and Off by Calculated Auxiliaries, TimeZones and Function Zones.

Area Lists are referred to by their identification letters “AL”, for example, AL001 is Area List one. There may be up to 250 Area Lists in the largest 3000/Access 4000 system.

An example of their application would be in the case of a particular User Type who is only allowed to turn OFF Areas belonging to Area List five. AL005 may contain the Areas 4, 7 and 24, therefore that User Type is only allowed to turn OFF Areas 4, 7 and 24.

Area List to
Alter: AL001

This screen allows an Area List to be selected for programming, allowing the User to jump to the selected Area List. Pressing the ON key allows the Installer to search for a particular Area List by name. Pushing the up / down arrow selects the last / next list.

Find Area List ^
ALL AREAS

AL001 Name
ALL AREAS

This screen allows an optional Area List name to be entered up to 16 characters long. It is recommended that names be programmed to simplify programming of the other options where Area Lists are allocated.

AL001 T.Zone ->
WEEKDAY

This screen allows an optional Time Zone to be “attached” to this Area List. When a TimeZone is “attached”, the Area List is only allowed when the TimeZone is valid. When the TimeZone is invalid then the list is considered to contain no Areas OR the Alternate Area List specified below will be used instead, if programmed. To select a TimeZone press the right arrow key to scroll through all available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this Area List. (The ON key may be used to change modes to allow a TimeZone to be selected by number if you wish)

AL001 TimeZone
TZ001

AL001 Alt. List
AL008

This screen specifies which Area List will be used instead of this Area List when an “attached” TimeZone is invalid. Note that if no alternative Area List is specified, when the TimeZone is invalid, no Areas will belong to this list.

AL001 12345678
A001->YYnnnnnn

These screens allow the Installer to specify the actual Areas that are to belong to this list to be specified. A “Y” under the appropriate Area number indicates that the Area is included in the list. A “n” indicates that it is not. In these examples Areas 1,2,3 and 13 are included in Area List 1.

AL001 90123456
A009->nnnnYnnn

Note: The Area Number displayed at the start of the bottom line, represents the first Area in the sequence. eg. A0009 indicates that Area 9 is the first Area in the sequence “90123456”.

and so on

Removing All Areas from ALL Area Lists

There exists an easy and efficient method of removing ALL Areas from ALL Area Lists. This is explained below:

**Area List to
alter: AL001**

At the first Area List Programming screen press HELP, "9".

**A.List Default ->
Don't Default**

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will remove ALL Areas from ALL Area Lists.

**Push '9' key to
Confirm Default**

The confirmation screen is displayed. Press the "9" Key to confirm your selection.

**Default
Done**

The default procedure is confirmed.

Door List Programming

Door Lists are referred to by their identification letters "DL", for example, DL018 is Door List 18. There may be up to 250 Door Lists in the largest Access 4000 system. Each Door List is essentially a list of allowable Doors allocated to this list. Door Lists can be used by other programming where a list of Doors needs to be selected. For example, a particular User Type may only be allowed to access via Doors belonging to Door List five. DL005 may contain the Doors 1,2 and 7. Therefore that User Type is only allowed access via Doors 1,2 and 7. Similarly, A Door List may be used to lock or unlock a list of Doors.

Door List to
Alter: DL001

This screen allows a Door List to be selected for programming, allowing the User to jump to the selected Door List. Pressing the ON key allows the Installer to search for a particular Door List by name. Pushing the up / down arrow selects the last / next list.

Find Door List ^
ALL DOORS

DL001 Name
ALL DOORS

This screen allows an optional Door List name to be entered up to 16 characters long. It is recommended that names be programmed to simplify programming of the other options where Door Lists are allocated.

DL001 T.Zone ->
WEEKDAY

This screen allows an optional Time Zone to be "attached" to this Door List. When a TimeZone is "attached", the Door List is only allowed when the TimeZone is valid. When the TimeZone is invalid then the list is considered to contain no Doors OR the Door List specified below will be used instead, if programmed. To select a TimeZone press the right arrow key to scroll through all available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this Door List. (The ON key may be used to change modes to allow a TimeZone to be selected by number if you wish)

DL001 TimeZone
TZ001

DL001 Alt. List
DL008

This screen specifies which Door List will be used instead of this Door List when an "attached" TimeZone is invalid. Note that if no alternative Door List is specified, when the TimeZone is invalid, no Doors will belong to this list.

DL001 12345678
D001->YYnnnnnn

These screens allow the Installer to specify the actual Doors that are to belong to this list to be specified. A "Y" under the appropriate Door number indicates that the Door is included in the list. A "n" indicates that it is not. In these examples Doors 1,2,3 and 13 are included in Door List 1.

DL001 90123456
D009->nnnnYnnn

Note: The Door Number displayed at the start of the bottom line, represents the first Door in the sequence. eg. D0009 indicates that Door 9 is the first Door in the sequence "90123456".

and so on

Removing All Doors from ALL Door Lists

There exists an easy and efficient method of removing ALL Doors from ALL Door Lists. This is explained below:

Door List to
alter: DL001

At the first Door List Programming screen press HELP, "9".

**D.List Default ->
Don't Default**

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will remove ALL Doors from ALL Door Lists.

**Push '9' key to
Confirm Default**

The confirmation screen is displayed. Press the "9" Key to confirm your selection.

**Default
Done**

The default procedure is confirmed.

Siren List Programming

Siren Lists are referred to by their identification letters “SL”, for example SL018 is Siren List 18. There may be up to 250 Siren Lists in the largest system. Each Siren List is essentially a list of allowable sirens allocated to this list. Siren Lists can be used by other programming where a list of sirens needs to be chosen. For example, a particular Area may be allowed to turn on sirens belonging to Siren List 3. Note that when a particular siren is included in the list both the Internal and External sirens are selected.

Siren List to
alter: SL001

This screen allows a Siren List be selected for programming. Pushing the up/down arrow selects the last/next list.

SL001 01234567
S000->YYnnnnnYn

These screens allow the Installer to specify the actual sirens to be included in the particular Siren List. A “Y” under the appropriate siren number indicates that both the Internal and External siren with that number are included in this list. A “n” indicates that they are not included. Siren 0 is defined as the siren on the Control Module, Siren 1 is defined as the siren on Expander 1, Siren 2 is defined as the siren on Expander 2 and so on. In the example on the left, sirens on the Control Module and Expanders 1 and 6 are included in Siren List 1.

SL001 89012345
S008->nnnnnnnn

SL001 67890123
S016->nnnnnnnn

Note: The Siren Number displayed at the start of the bottom line, represents the first siren in the sequence. Eg. S016 indicates that Siren 16 is the first Siren in the sequence “67890123”.

SIREN NUMBERING

Control Module	S000
Expander 1	S001
Expander 2	S002
Expander 3	S003
Expander 4	S004
Expander 5	S005
Expander 6	S006
Expander 7	S007
Expander 8	S008
Expander 9	S009
Expander 10	S010
Expander 11	S011
Expander 12	S012
Expander 13	S013
Expander 14	S014
Expander 15	S015
Expander 16	S016
...	...
...	...
Expander 98	S098
Expander 99	S099

NOTE: Expander Siren Numbers will control Sirens on both “B” and “E” Type Expanders.

ie. S001 = Sirens on B01 and E01
S002 = Sirens on B02 and E02, etc.

Removing All Sirens from ALL Siren Lists

There exists an easy and efficient method of removing ALL Sirens from ALL Siren Lists. This is explained below:

**Siren List to
alter: SL001**

At the first Area List Programming screen press HELP, "9".

**S.List Default ->
Don't Default**

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will remove ALL Sirens from ALL Siren Lists.

**Push '9' key to
Confirm Default**

The confirmation screen is displayed. Press the "9" Key to confirm your selection.

**Default
Done**

The default procedure is confirmed.

Floor List Programming

(Access 4000 Only)

Floor Lists are referred to by their identification letters “FL”, for example FL018 is Floor List 18. There may be up to 64 Floor Lists in the largest Access 4000 system. Each Floor List is essentially a list of allowable floors allocated to this list. Floor Lists can be used by programming where a list of floors needs to be chosen. For example, a particular User Type may only be allowed access to floors belonging to Floor List seven. FL007 may contain the floors 1,2,3,5,6,10 and 13. Therefore, that User Type is only allowed to select floors 1,2,3,5,6,10 and 13 after using the Lift Car Reader. Floor Lists may also be used for the purpose of securing and unsecuring Floors.

Floor List to
Alter: FL001

This screen allows a Floor List to be selected for programming. Pressing the up/down arrow selects the last/next list.

FL001 T.Zone ->
WEEKDAY

This screen allows an optional TimeZone to be “attached” to this Floor List. When a TimeZone is “attached”, the Floor List is only valid when the TimeZone is valid. When the TimeZone is invalid, the list is assumed to contain no floors OR the Floor List specified below will be used instead, if programmed. To select a TimeZone press the right arrow key to scroll through all available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this Floor List (The ON key may be used to change modes to allow a TimeZone to be selected by number, if desired).

FL001 TimeZone
TZ001

FL001 Alt. List
FL008

This screen specifies which Floor List will be used instead of this Floor List when an “attached” TimeZone is invalid. If no alternative Floor List is specified, when the TimeZone goes invalid, no floors will belong to this list.

FL001 12345678
F001-> YnYnYnYnn

These screens allow the actual floors that are to belong to this list to be specified. A “Y” under the appropriate floor number indicates that the floor is included in this list. A “n” under a particular floor number indicates that the floor is not included in this list.

FL001 90123456
F001 nYnnYnnnn

In this example, floors 1,3,5,6,10 and 13 are included in Floor List 1. The Floor Number displayed at the start of the bottom line represents the first Floor in the sequence. ie. F009 indicates that Floor 9 is the first Floor in the sequence “90123456”.

and so on

Lift Car List Programming

(Access 4000 Only)

Lift Car Lists are referred to by their identification letters “LL”, for example LL003 is Lift Car List 3. There may be up to 64 Lift Car Lists in the largest Access 4000 system. Each Lift Car List is essentially a list of allowable Lift Car Readers allocated to this list. Lift Car Lists are selected in other programming fields where a list of Lift Cars needs to be chosen. For example, a particular User Type may only be allowed access via Lifts belonging to Lift Car List 9. LL009 may contain the Lift Cars 3,4,8 and 9. Therefore, that User Type is only allowed access via lifts 3,4,8 and 9 once Lift Car List 9 (LL009) is allocated to it.

Lift Car Lists are also used in TimeZones to secure and unsecure Lifts.

Lift List to
alter: LL001

This screen allows a Lift Car List to be selected for programming. Pressing the up/down arrows selects the last/next list.

LL001 T.Zone ->
WEEKDAY

This screen allows an optional TimeZone to be “attached” to this Lift Car List. When a TimeZone is “attached”, the Lift Car List is only valid when the TimeZone is valid. When the TimeZone is invalid, the list is assumed to contain no Lift Cars OR the Lift Car List specified below will be used instead, if programmed. To select a TimeZone press the right arrow key to scroll through all the available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this Lift Car List. (The ON key may be used to change modes to allow a TimeZone to be selected by number, if desired.)

LL001 Alt. List
LL008

This screen specifies which Lift Car List will be used instead of this Lift Car List when the “attached” TimeZone is invalid. If no alternative Lift Car List is specified, when the TimeZone is invalid, no Lift Cars will belong to this list.

Use the Right Arrow Key to position the cursor before entering the desired Lift Car List number.

LL001 12345678
L001-> nnYYnnnY

These screens allow the actual Lift Car Readers that are to belong to this list to be specified. A “Y” under the appropriate Lift number indicates that the Lift is included in this list. A “n” under a particular Lift number indicates that it is not included in this list.

LL001 90123456
L001-> Ynnnnnnn

In this example, Lifts 3,4,8 and 9 are included in Lift List 1. The Lift Car Number displayed at the start of the bottom line represents the first lift in the sequence. ie. L009 indicates that Lift 9 is the first Lift in the sequence “90123456”.

Auxiliary List Programming

NOTE: Auxiliary Lists are only available in Control Module Firmware V3 or later.

Auxiliary Lists are referred to by their identification letters “XL”, for example, XL001 is Auxiliary List 1. There may be up to 64 Auxiliary Lists in the largest 3000/4000 system. Each Auxiliary List is a list of up to 8 Auxiliaries allocated to this list.

Auxiliary Lists can be used by other programming where a list of Auxiliaries needs to be chosen. For example, an Auxiliary List (instead of an Auxiliary) may be assigned in the Area database as the “Alarm 1” Auxiliary so that a number of Auxiliaries can be used to control several separate Strobe lights on a building whenever an alarm is present in that Area.

NOTE: The Auxiliary List does not have an actual state but is used to define a group of independent Auxiliaries. All Auxiliaries in the list may change state independently of one another and any Auxiliary can be in any number of Auxiliary Lists.

Auxiliary Lists can be assigned to the following:

- Area Exit Auxiliary (Aux List assignment only available V4 or later)
- Area Entry Auxiliary (Aux List assignment only available V4 or later)
- Area Siren Auxiliary
- Area Alarm 1 Auxiliary
- Area Alarm 2 Auxiliary
- Area Alarm 3 Auxiliary
- Area Alarm 4 Auxiliary
- Area Close Auxiliary
- Calculated Auxiliary (Edge Trigger Type Only)
- TimeZone Auxiliary Control
- Home Auxiliaries

Aux List to
alter: XL001

Find Aux List ^
STROBE OUTPUTS

This screen allows an Auxiliary List to be selected for programming, allowing the User to jump to the selected Auxiliary List or, by pressing the ON Key, search for a particular Auxiliary List by name. Pressing the up/down arrows selects the last/next list.

XL001 Name:
EXTERNAL LIGHTING

This screen allows an optional Auxiliary List name to be entered up to 16 characters long. It is recommended that names be programmed to simplify programming of the other options where Auxiliary Lists are allocated.

XL001 Aux 01
E03:X04

XL001 Aux 02
E04:X03

These screens allow the actual Auxiliaries that are to belong to this list to be specified. There are 8 separate screens (Aux 01 to Aux 08) that each allow an Auxiliary to be specified.

and so on

Using Auxiliary Lists

To assign an Auxiliary List instead of an individual Auxiliary, press the ON key when prompted for an Auxiliary number. A screen similar to this one will appear. (The Area "Siren Aux" is used here as an example).

A001 Siren OFof
XList Opts: nnnn

This screen selects how the Auxiliary List is going to be controlled.

If all options are set to "n" and the OK key is pressed, the screen for selecting an individual Auxiliary to trigger will be displayed.

ie. At least one of these options must be set if you wish to assign an Auxiliary List.

O	List On if Aux On	Set means turn Auxiliary List On when Auxiliary On.
F	List OFF if Aux On	Set means turn Auxiliary List Off when Auxiliary On.
o	List on if Aux Off	Set means turn Auxiliary List on when Auxiliary Off.
f	List off if Aux Off	Set means turn Auxiliary List off when Auxiliary Off.

A001 Siren Aux.
List: XL000

This screen allows an Auxiliary List to be chosen, to operate as per the previous options selected.

NOTES:

1. If an Auxiliary List is assigned and a timer option exists for the Auxiliary Control Action (eg. in TimeZone Actions, Process Groups, Home Auxiliary Time and Calculated Auxiliary Actions) the Timer **must not** be used.
2. Auxiliary List **must not** be assigned to "Level Triggered" Calculated Auxiliary Actions.
ie. EQUAL to 1st
OPPOSITE to 1st
1st AND 2nd
1st OR 2nd
1st OPPOSITE 2nd

Menu Group Programming

Menu Group contains a series of options which are used to decide what actions a particular User Type is allowed to perform at an LCD Terminal. Menu Groups may be allocated to User Types and/or LCD Terminals to restrict access to menu functions allowable for a particular User Type and/or Terminal. It also controls remote access via a PC.

Note: There are 4 default Menu Groups already programmed and available for use in the system. These Menu Groups will cover some common User Type and Terminal programming requirements. **The procedure to reset Menu Group Programming to the factory default is explained in more detail at the end of this chapter.**

Menu Group Defaults

	MG001	MG002	MG003	MG004
Name	All Menus	Restricted Menus	Extra Menus	Admin. Menus
TimeZone				
Alternate Group				
BASIC OPTIONS				
Remote Access				
Isolate on Exit	Yes		Yes	Yes
Defer On				
Cancel Holdup				
Disable Sirens			Yes	Yes
Ack. All Alarms	Yes			Yes
Multiple Area ON/OFF	Yes	Yes	Yes	Yes
Tamper OFF	Yes			Yes
MENU ACCESS				
Info. (review)	Yes			Yes
Access	Yes			Yes
Isolate	Yes			
Test	Yes		Yes	Yes
Time	Yes			Yes
Service	Yes		Yes	Yes
Control	Yes			Yes
OPTION ACCESS				
User Codes	Yes			Yes
User Types*	Yes			
Lists*	Yes			
Groups*	Yes			
TimeZones*	Yes			
Review*	Yes			
Adjust Counters*	Yes			
OTHER OPTIONS				
Reset Alarms				
Isolate HomeZones				
Only Own List				

* If access to the Menu containing this option is already allowed.

Menu Group to
alter: MG001

This screen allows the Installer to select the Menu Group to alter. Pressing the ON key displays the “Find Menu Grp” screen. By pressing one of the alphabetical keys the Installer is able to search the Menu Groups and go to the group with the name beginning with the letter of the key pressed.

Find Menu Grp ^
ALL MENUS

NOTE: **MG001 should not be altered.**

M. Grp. 001 Name
ALL MENUS

This screen allows an optional Menu Group name to be entered up to 16 characters in length. It is recommended that Menu Group names be programmed to simplify programming of the other options where Menu Groups are allocated.

MG001 T. Zone ->
WEEKDAY

This screen allows an optional TimeZone to be “attached” to this Menu Group. When a TimeZone is “attached”, the Menu Group is only valid when the TimeZone is valid. When the TimeZone is invalid, ALL Menu Group options are considered to be invalid OR the Menu Group specified below will be used instead, if programmed. To select a TimeZone press the right arrow key to scroll through all the available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this Menu Group. (The ON key may be used to change modes to allow a TimeZone to be selected by number if desired.)

MG001 TimeZone
TZ001

MG001 Alt.Grp.->
SOME MENUS

This screen specified what Menu Group will be used instead of this Menu Group when an “attached” TimeZone is invalid. If no alternative Menu Group is specified and the TimeZone is invalid, all options for the Menu Group are considered invalid.

MG001 Alt. Group
MG008

MG001 RIDCSAMT
Opt1-> nnnnnnnn

The screen sets the basic options concerning this Menu Group.

R Remote Access

Allows this User remote access via an upload/download package.

The system allows remote access to the system via the upload/download package or via direct line or dialer formats that support remote access. In all cases access is only granted via knowledge of a User code within the system. The table below lists the permission's granted to each User:

User 00001	All programming and all on/off control allowed via upload/download package. Installer must not be locked out by Master User (U00002)
User 00002	Some programming and all on/off control allowed via upload/download package. Remote access is enabled regardless of the setting of the Remote option in Menu Group
User 00003	No programming and some or no on/off control allowed via upload/download package. Remote access is enabled regardless of the setting of the Remote option in Menu Group. Intended as a secondary Master or Central Station User.

		User > 00003	No programming and some or no on/off control allowed via upload/download package. Menu Group must have Remote option set to yes to enable Remote access.
I	Isolate on Exit		Allows this User to Isolate Zones on Exit if they are unsealed.
D	Defer On		If set to "Y" this User will cause the Deferred Area processing timer to start when they turn off an Area which has its Defer Area flag set to yes and is on the User's Area Off list. Go to the section of this manual on " Deferred Area Programming " for detailed Instructions.
C	Cancel Holdup		Allows this User to cancel Holdup Alarms by stopping the Holdup timer.
S	Siren Off		User Types with this Menu Group will automatically turn off any sirens sounding at the time of code entry, regardless of whether they are allowed control over the Areas in which the sirens are sounding. The relevant Areas are NOT automatically turned off.
A	Acknowledge		User Types with this Menu Group will be allowed to acknowledge alarm messages from any Area, regardless of whether they are allowed control over Areas in which the alarm messages came from.
M	Multiple Areas		User Types with this Menu Group are allowed to turn on or off more than one Area at a time via an Area List. Although the User can pick any Area List to use, only Areas belonging to the User Type "ON" and "OFF" lists will be actioned.
T	Tamper On/Off		User Types with this Menu Group will be allowed to turn OFF the 24 Hour or Tamper part of any Area belonging to their Area OFF list.
MG001	RAITt.SC		This screen allows the Installer to set permissions for access to specified menus on a Terminal.
MMenu	->nnnnnnnn		NOTE: The Installer (U00001) and Master (U00002) codes are allowed access to all these menus regardless of the settings below.
R	Read Info		User Types with this Menu Group are allowed access to the Information Menu. (See qualifying options below)
A	Access		User Types with this Menu Group are allowed access to the Access Programming Menu. (See qualifying options below)
I	Isolate		User Types with this Menu Group are allowed access to the Isolate Menu.
T	Test		User Types with this Menu Group are allowed access to the Test Menu.
t	Time		User Types with this Menu Group are allowed access to the Time Programming Menu. (Set Time/Date and Holidays Only - See qualifying options below)
.	Spare		Spare for future development. Set to "n".

- S** **Service** User Types with this Menu Group are allowed access to the Service Menu. Only the Installer (U00001) and Master (U00002) codes are permitted access to the "Security" sub-menu which is found within the Service Menu.
- C** **Control** User Types with this Menu Group are allowed access to the Control Menu.
(See qualifying options below)

MG001 **UTLGZRA.**
Amenu-> **nnnnnnnn**

This screen sets permissions for access to specified sub-menus on a Terminal.

- U** **User Codes** If "Y" then User Types with this Menu Group are allowed access to User Code programming. Note that a simple priority scheme means that only User Codes higher than the programmer's User Code may be programmed. For example, U00567 cannot programme U00001 to U00566.
(See "User Ranks" in "User Code Programming" for details of a more complex priority scheme).
- T** **User Types** If "Y" then User Types with this Menu Group are allowed access to User Type programming if they are allowed access to the Access Menu. (See last screen)
- L** **Lists** If "Y" then User Types with this Menu Group are allowed access to List Programming (Areas, Doors, Sirens) if they are allowed access to the Access Menu (See last screen).
- G** **Groups** If "Y" then User Types with this Menu Group are allowed access to Group Programming (Menu Groups and Access Groups only) if they are allowed access to the Access Menu (See last screen).
- Z** **TimeZones** If "Y" then User Types with this Menu Group are allowed access to TimeZone Programming in addition to Set Time/Date and Holiday Programming if they are allowed access to the Time Menu (See last screen).
- R** **Review** If "Y" then User Types with this Menu Group are allowed to access Review provided they are allowed access to the Information Menu (See last screen).
- A** **Adjust Counters** If "Y" then User Types with this Menu Group are allowed to adjust counters under MENU 9,6 provided they are allowed access to the Control Menu (See last screen).

MG001 **RHO.....**
Other-> **nnnnnnnn**

This screen allows the Installer to set other special options.

- R** **Reset latched alarms** If "Y" then User Types with this Menu Group are allowed to reset latched alarms.
See Input Types in Process Group Programming [MENU 2,4,3].
- H** **Isolate HomeZones** If "Y" then User Types with this Menu Group will be presented with alpha search HomeZones only when they access the Isolate Menu [MENU 3] if allowed.
If set to "n", the normal Zone ID screens will be presented.
See "Isolate" [MENU 3] for further details.
- O** **Only Own List** V4 or later. If "Y" then User Types with this Menu Group, when selecting an Area List to Control, will only be presented with their User Type's Area On List. This simplifies Area List selection.

Menu Group Defaulting

Two options are available by which to default Menu Group Programming to factory settings. These are explained below

Menu Group to
alter: MG001

At the first Menu Group Programming screen press HELP, “9”.

M.Grp. Default->
Don't Default

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will reset the first four Menu Groups as follows:

MG001	ALL MENUS
MG002	RESTRICTED MENUS
MG003	EXTRA MENUS
MG004	ADMIN MENUS

In addition, this option will delete all other Menu Groups, if present.

Standard

Selecting this option will reset the first four Menu Groups as follows:

MG001	ALL MENUS
MG002	RESTRICTED MENUS
MG003	EXTRA MENUS
MG004	ADMIN MENUS

This option will make no alterations to any other Menu Groups, if present.

Push '9' key to
Confirm Default

The confirmation screen is displayed. Press the “9” Key to confirm your selection.

Default
Done

The default procedure is confirmed.

Access Group Programming

Access Groups contain a series of options which are used to decide which access control actions are allowed at a particular Door. Access Groups are allocated to Doors to Control Door access.

There are 3 default Access Groups programmed as default and available for use in the system. These Access Groups will cover most common Door programming requirements. **The procedure to reset Access Group Programming to the factory default is explained in more detail at the end of this chapter.**

Access Group Defaults

	AG001	AG002	AG003
Name	ENTRY Door	EXIT Door	INTERNAL Door
TimeZone			
Alternate Group			
ENTRY OPTIONS			
Entry Mode	PIN or Card	Card & PIN	PIN or Card
Entry Passback Option	None	None	None
Entry Button		Yes	
Deadlock Entry Button			
Auto Area Off	Yes		Yes
Dual User Requirement			
EXIT OPTIONS			
Exit Mode	Card & PIN	PIN or Card	PIN or Card
Exit Passback Option	None	None	None
Exit Button	Yes		
Deadlock Exit Button			
Auto Area Off		Yes	Yes
Dual User Requirement			
GENERAL OPTIONS			
Isolate on Entry			
De-isolate on Exit			
No Entry if wrong Area			
No Exit if wrong Area			
Two Zones Mode			

**Access Group to
alter: AG001**

This screen allows the Installer to select an Access Group for programming. Pressing the ON Key allows the programmer to search for a specific Access Group by pressing the digit key which corresponds to the first letter in the name of the Access Group.

**Find Acc. Grp ^
PIN Access**

e.g. Having pressed the ON Key, press the "6" Digit Key to display the name of an Access Group starting with P, Q or R.

**A. Grp. 001 Name
PIN Access**

This screen allows an optional Access Group name to be entered up to 16 characters long. It is recommended that Access Group names be programmed to simplify programming of other options where Access Groups are allocated.

**AG001 T.Zone ->
WEEKDAY**

This screen allows an optional TimeZone to be "attached" to this Access Group. When a TimeZone is "attached", the Access Group is only valid when the TimeZone is valid. When the TimeZone is invalid, the operation of this Access Group is also considered invalid and the Alternate Group, if programmed below, will be used instead, provided it too is in a valid TimeZone.

**AG001 TimeZone
TZ001**

To select a TimeZone press the right arrow key to scroll through all the available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this Access Group. (The ON key may be used to change modes to allow a TimeZone to be selected by number, if desired).

**AG001 Alt. Grp->
CARD USER**

This screen allows the Installer to specify the name of an Alternate Access Group to be used in place of the primary Access Group whenever the "attached" TimeZone is invalid. If no Access Group is specified and when the TimeZone is invalid, all options for the Access Group are considered invalid and Doors assigned this Access Group will cease to operate.

**AG001 Entry ->
mode Pin or Card**

This screen determines the type of access mode to gain entry to the Door. The right arrow is used to cycle through all the choices:

Mode

PIN Only

Operation

Only a PIN code will allow entry through this Door.

Card Only

Only a Card will allow entry through this Door.

PIN or Card

A PIN code OR a Card will allow entry through this Door.

Card & PIN

A Card followed by a PIN code must be used to allow entry through this Door.

Anti Passback

**AG001 Entry ->
Passback: None**

This screen determines whether Anti-passback is to be applied on entering. See explanation at the end of this document and "Anti-Passback and Wrong Area Processing" in the "Applications Programming section of this manual for details.

Mode

None

Operation

No anti-passback

Soft

Anti-passback rules are applied but access is still granted if violated, with a message recorded to review.

Hard

Anti-passback rules are applied and access is denied if violated, with a message recorded to review.

Spare

Spare for future developments - do not use.

**AG001 Entry BLAD
Options-> nnnn**

This screen sets basic **entry access options** for this Access Group:

- | | | |
|----------|-----------------|---|
| B | Button facility | If set to "Y", the entry Button, if present, is operational for Doors with this Access Group. |
| L | Dead Lock | If set to "Y", the entry button, if present, will not operate on Doors with this Access Group if you are <i>leaving</i> an Area that is currently ON. |
| A | Auto Area OFF | <p>This option enables the operation of granting access through a Door assigned this Access Group to automatically turn Off the Inside Area of that Door first, provided that a valid Inside Area is defined within its Door programming options.</p> <p>This prevents authorised users being granted access through a Door and walking into an armed Area, thus activating alarms.</p> <p>If an Entry Button has been installed, access through the Door will not be granted whilst the Inside Area is armed, the Area must be turned Off before access will be granted.</p> |
| D | Dual User | If set to "Y", a Dual code is required to enter a Door with this Access Group. (Those Users with a User Type which has the Override Dual User flag set to "Y" will be exempt from this requirement). |

**AG001 Exit
Mode: PIN Only**

This screen determines the operation of a Door when a User is **leaving** via the Door. These options apply to Doors with Card Readers positioned on the inside of the Door and for which "Inside" positioning of the Card Reader is properly reflected in their Reader Module programming. The right arrow key is used to cycle through all available options:

- | Mode | Operation |
|-------------|---|
| PIN Only | Only a PIN code will allow exit through this Door. |
| Card Only | Only a Card will allow exit through this Door. |
| PIN or Card | A PIN code OR a Card will allow exit through this Door. |
| Card & PIN | A Card followed by a PIN code must be used to allow exit through this Door. |

**AG001 Exit
Passback: None**

This screen determines whether anti-passback is to be applied on exit. *See explanation at the end of this document and "Anti-Passback and Wrong Area Processing" in the "Applications Programming section of this manual for details.*

- | Mode | Operation |
|-------------|--|
| None | No anti-passback |
| Soft | Anti-passback rules are applied, but access is still granted if violated and a message recorded to review. |
| Hard | Anti-passback rules are applied and access is denied if violated with a message recorded to review. |
| Spare | Spare for future development - do not use. |

AG001 Exit BLAD
Options-> nnnn

This screen sets basic exit access options for this Access Group:

- | | | |
|----------|------------------------|--|
| B | Button facility | If set to "Y", the exit Button, if present, is operational for Doors with this Access Group. |
| L | Dead Lock | If set to "Y", the exit button, if present, will not operate on Doors with this Access Group if you are <i>leaving</i> an Area that is currently ON. |
| A | Auto Area OFF | <p>This option enables the operation of exiting through a Door assigned this Access Group to automatically turn Off the Outside Area of that Door first, provided that a valid Outside Area is defined within its Door programming options.</p> <p>This prevents authorised users leaving via a Door which leads into an armed Area, thus activating alarms.</p> <p>If an Exit Button has been installed, departure through the Door will not be granted whilst the Outside Area is armed, the Area must be turned Off before departure will be granted.</p> |
| D | Dual User | If set to "Y", a Dual code is required to exit via a Door with this Access Group. |

AG001 IDEXT
Options-> nnnnn

This screen sets special access options for this Access Group:

- | | | |
|----------|---------------------------|---|
| I | Isolate on Entry | If set to "Y", the pre-defined Zone Input allocated to the User will be automatically Isolated when the User presents their Card at the "outside" Reader of a Door which has been allocated this Access Group. This is explained in more detail below. |
| D | De-Isolate on Exit | If set to "Y", the pre-defined Zone Input allocated to the User will be automatically De-isolated when the User presents their Card at the "inside" Reader of a Door which has been allocated this Access Group. This is explained in more detail below. |
| E | No Entry if Wrong | <p>If set to "Y" and the "outside" Area for the associated Door is non-zero, entry will only be granted through a Door with this Access Group if the User's current location is equal to the defined outside Area.</p> <p>(This function operates independently of Anti-passback rules).</p> <p><i>See explanation at the end of this document and "Anti-Passback and Wrong Area Processing" in the "Applications Programming section of this manual for details.</i></p> |
| X | No Exit if Wrong | <p>If set to "Y" and the "inside" Area for the associated Door is non-zero, exit will only be granted through a Door with this Access Group if the User's current location is equal to the defined inside Area.</p> <p>(This function operates independently of Anti-passback rules).</p> <p><i>See explanation at the end of this document and "Anti-Passback and Wrong Area Processing" in the "Applications Programming section of this manual for details.</i></p> |
| T | Two Zones Mode | If set to "Y", Reader Isolation options are enhanced allowing for two zones per User instead of one. |

Reader Isolate Options

The Reader Isolate and De-isolate options allow one or two specific zones to be isolated when a Card is presented at a Reader on the “outside” of a Door and to automatically de-isolate the zone(s) when a Card is presented at a Reader on the “inside” of a Door.

This option allows a system to simulate a very large number of Areas which only contain one or two zones. This is a useful feature in applications requiring hundreds or thousands of simple Areas such as storage locker applications.

For this feature to function correctly, the Menu Group assigned to the User Type, which in turn is assigned to the User, must have the “T” Isolate on Exit flag set to “Y”.

Operation

When a Card is presented at a Reader on the outside of a Door and the Card is allowed to un-lock the Door, the Control Module checks the Isolate option (see above) for the Access Group currently valid for that Door. If the Isolate option is set to “Y”, a specific zone will be isolated automatically depending on the User who presented the Card. If the “T” option is set, two Zones will be isolated. See the following table for Zone allocations.

When a Card is presented at a Reader on the inside of a Door and the Card is allowed to unlock the Door, the Control Module checks the De-isolate option (see above) for the Access Group currently valid for that Door. If the De-isolate option is set to “Y”, a specific zone will be de-isolated automatically depending on the User who presented the Card. If the “T” option is set, two Zones will be de-isolated. See the following table for Zone allocations.

If this “T” option is set to “n”, the Reader isolate option will provide one Zone per User. Whether one Zone or two Zones are isolated depends on the setting of this “Two Zones Mode” option.

The Zone(s) that are actually isolated is not programmable but follows the table below:

User Presenting Card	Zone Isolated (“T” option not set)	Zone Isolated (“T” option set)
U00001 to U00032	None	None
U00033 to U00048	B01:Z01 to B01:Z16	B01:Z01 to B01:Z32
U00049 to U00064	B01:Z17 to B01:Z32	B02:Z01 to B02:Z32
U00065 to U00080	B02:Z01 to B02:Z16	B03:Z01 to B03:Z32
U00081 to U00096	B02:Z17 to B02:Z32	B04:Z01 to B04:Z32
etc	etc	etc

32 Zone “B” Type Expanders must be used and the Zones run in sequence up to the maximum number of Users or Expanders. Furthermore, this function can only be performed via a Card Reader.

The Reader to be used for isolating Zones may or may not be associated with a real Door. The Reader can be set up outside an imaginary Door, for the sake of example, D001 and an Access Group with the “T” option set allocated to the Door. The lock Auxiliary can control a lamp or buzzer so that when a Card is swiped, indication is given to the User that the Card was accepted and their storage locker can now be accessed. Similarly the Reader to be used for de-isolating zones may be associated with D001 or another Door. The Reader can be set up inside the Door and an Access Group with the “D” option set allocated to the Door. The lock Auxiliary can control a lamp or buzzer so that when a Card is swiped, indication is given to the User that the Card was accepted and their storage locker is now secure.

All the usual TimeZone options apply allowing certain Users access at certain times. All isolate/de-isolate operations are saved to review. If the Process Group allows, the actual isolate/de-isolate can be reported for some/all Users.

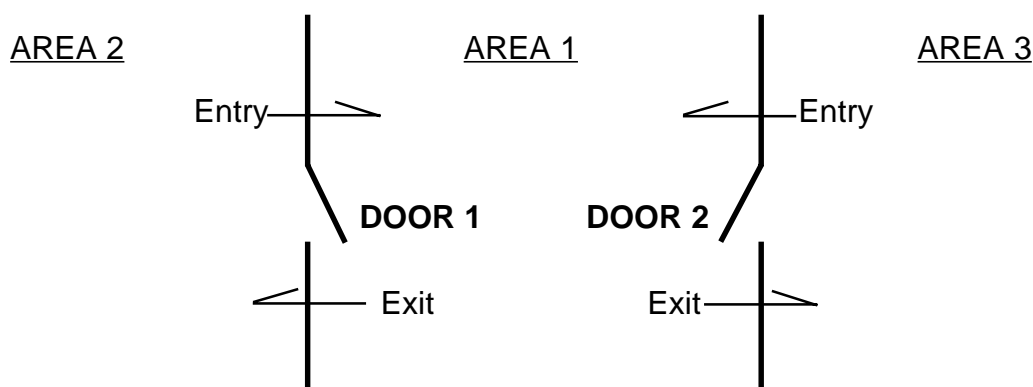
Wrong Area and Anti-Passback options in Access Groups

“Wrong Area” options operate independently of Anti-passback rules, however Hard anti-passback must be set when Wrong Area options are enabled. If the no (E)ntry on wrong area option is set to yes and the “outside” area for the associated door is non-zero, then entry will only be granted if the User’s current location is equal to the defined “outside” area.

Conversely, if the no E(X)it on wrong area option is set to yes and the “inside” area for the associated door is non-zero, then exit will only be granted if the User’s current location is equal to the defined “inside” area.

The Wrong area option may be considered as the HARDEST form of Anti-passback available. The comparison between Wrong aArea and Hard Anti-Passback may be made as follows.

Wrong Area will only allow access through a door if you are located within the associated area of that side of the door you are trying to gain access through. This means that if you present your card at an Entry Reader, your location must be in the OUTSIDE area associated to that specific Door. If you present your card at an Exit Reader, your location must be in the INSIDE area associated to that specific Door.



Hard Anti-Passback processing. Refer to the diagram above.

Hard Anti-Passback will only allow access through a specific door if you are considered on the correct side of it. If you are outside the door, you may go in, and if you are inside the door, you may go out. This still requires allocation of Inside and Outside areas to the door, but the Anti-Passback rules are on a per door basis.

What this means is if I go through Door #1 into Area 1 from Area #2, I am now inside Area #1. If there is another door that allows access into Area #1, Door #2, I may exit Area #1 via Door #2 which has an outside area of Area #3. Because I am now outside Area #1 (the inside area of both doors) I can now access either Door #1 or Door #2 to gain access legally to Area #1. Once inside Area #1 if I try to gain access into Area #1 while I am inside (because I passed back my card to someone else), access will be denied ANTI-PASSBACK. The same will occur if I am outside either door (in Area #2 or Area #3) and I try to exit. To summarize Anti-Passback; It only ensures I am on the correct side of the door, and that I have not exited illegally or given my card to another person.

Wrong Area processing. Refer to the diagram above.

Wrong area however will only let me through the specific door I entered or exited. If we take the above example again but now also have the “No Entry if Wrong Area” & “No Exit if Wrong Area” flags set in conjunction with Hard Anti-Passback, we get the following result. If I go through Door #1 into Area #1 from Area #2, I am now inside Area #1. If there is another door that allows access into Area #1, Door #2, I may exit Area #1 via Door #2 which has an outside area of Area #3. Because I am now outside Area #1 (the inside area of both doors) but inside Area #3, I cannot go back into Area #1 via Door #1. This is because I am in Area #3 and the access group options state “DO NOT ALLOW ENTRY if the area I am currently in, is NOT the AREA associated to that side of the door I am try to gain entry from”. In this case Area #2. To summarize Wrong Area, it controls specifically the direction and which I may go through at all times.

Programming Notes.

Both "Anti-Passback" and "Wrong Area" require that the inside and/or the outside area of the door be set to a non zero value. The area selected will depend on the direction and level of restriction required.

It is suggested that when Anti-Passback is used, all doors that exit the premises entirely should have their outside area all programmed the same, or all set to None. In addition, it is suggested that a Calculated Auxiliary is programmed to perform an Amnesty function to operate on a daily basis once the premises is empty (automatically when the security area is turned on). This is to prevent Users locking themselves out or, or in, specific areas if they enter or exit illegally.

In the case of Wrong Area, it is suggested that all doors that exit the premises should have their outside area programmed the same. However, the Amnesty function should not be used, as this will render the location of every user as None, causing them to be locked out of all doors (because they are no longer in any area).

The User Types "Override Anti-Passback" flag can be set to allow particular User Types to enter or exit a door regardless of Anti-Passback or Wrong Area settings.

The easiest way to map out and implement both Anti-Passback or Wrong Area is to get a floor plan of the premises and mark out each door to be controlled and then assign areas to both sides of the doors. This will then produce common areas between doors, and the specific details required to complete the programming.

Refer to "Anti-Passback and Wrong Area Processing" in the Applications Programming section of the manual for more details and step-by-step programming procedures.

Access Group Defaulting

Two options are available to default Access Group Programming to factory settings. These are explained below:

**Access Group to
alter: AG001**

At the first Access Group Programming screen press HELP, "9".

**A.Grp. Default ->
Don't Default**

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will reset the first three Access Groups as follows:

AG001	ENTRY DOOR
AG002	EXIT DOOR
AG003	INTERNAL DOOR

In addition, this option will delete all other Access Groups, if present.

Standard

Selecting this option will reset the first three Access Groups as follows:

AG001	ENTRY DOOR
AG002	EXIT DOOR
AG003	INTERNAL DOOR

This option will make no alterations to any other Access Groups, if present.

**Push '9' key to
Confirm Default**

The confirmation screen is displayed. Press the "9" Key to confirm your selection.

**Default
Done**

The default procedure is confirmed.

Process Group Programming

Each individual Zone or System Input programmed into an Area, must be assigned a Process Group which will determine the manner in which that Input will be processed in that particular Area.

If an Input is programmed into more than one Area, a Process Group is assigned to the Input separately for each Area.

Assigning Process Groups to Inputs in this way allows for an Input to be processed differently in each Area that it is assigned to. An Input can be programmed into a maximum of 8 Areas if required. By assigning a different Process Group to the Input in each Area, this can allow up to 8 different processes to be applied to a single Input.

e.g.

A Movement Detector in a Foyer could be assigned to 3 different Areas:

- An Intruder Alarm Area where it will be processed as a "Burglary" Zone.
- A second Area where it will be programmed to turn the lights on for a programmable period.
- A third Area where it will be programmed to activate a Door Bell during business hours.

There are 14 default Process Groups already programmed within the system. (12 in Firmware prior to V4.5)

These Process Groups will accommodate most common Zone Input programming requirements. Customised Process Groups may however be added if required.

Details of the Default Process Groups are provided on pages 2 and 3.

The procedure to reset Process Group Programming to the factory default is explained in more detail at the end of this chapter.

Process Group Defaults

Number	1	2	3	4	5	6	7
Name	Burglary	Burglary Delay	Burglary Primary	Local Silent	Fire Zone	Duress	Automation
Time Zone							
Alternate Group							
Input Type: Tamper	Y	Y	Y	Y	Y		
Alarm	Y	Y	Y	Y	Y	Y	Y
Entry		Y	Y				
Exit		Y	Y				
Pulse Count							
Primary Entry			Y				
Latch Input							
Single Pulse							
Comms: Isolate	Y	Y	Y		Y	Y	
Tamper	Y	Y	Y		Y		
Alarm	Y	Y	Y		Y	Y	
Restore	Y	Y	Y		Y	Y	
Entry							
Exit							
Unseal Restore							
Single Hit							
CID Message	0	0	0	0	0	0	0
4+2 Pulse Mess.	0	0	0	0	0	0	0
Area Auxiliaries: Tamper	Y	Y	Y	Y	Y		
Alarm 1	Y	Y	Y	Y	Y		
Alarm 2							
Alarm 3							
Alarm 4							
Isolate							
Siren Tones: Alarm	Sweep	Sweep	Sweep		Evac.		
Tamper	Sweep	Sweep	Sweep		Sweep		
Siren Lockout	Y	Y	Y				
Siren Re-Trigger							
LCD Terminal Message Types	1	1	1	1	1	none	none
H aux Seal opt							
H aux Alm opt							
H aux Tamp opt							
Home Aux Opts: Override Time							
Minute timer							
Extra Options: Refresh Only							
No Refresh							
Lift Buttons							
Home Aux Time							
Pin Type	3	3	3	1	1	2	1
Verify Group	1	1	1	1	1	1	1
SMS Tx Mode							
SMS First Phone No.							

Number	9	10	11	12	13	14	15
Name	System Tamper	System Silent	System LAN	System Local	Access Local	Access Alarm	Access Silent
TimeZone							
Alternate Group							
Input Type: Tamper	Y						
Alarm		Y	Y	Y	Y	Y	Y
Entry							
Exit							
Pulse Count							
Primary Entry							
Latch Input							
Single Pulse							
Comms: Isolate	Y	Y	Y				Y
Tamper	Y						
Alarm		Y	Y				Y
Restore	Y	Y	Y				Y
Entry							
Exit							
Unseal Restore							
Single Hit							
CID Message	0	0	0	0	0	0	0
4+2 Pulse Mess.	0	0	0	0	0	0	0
Area Auxiliaries: Tamper	Y						
Alarm 1			Y			Y	Y
Alarm 2							
Alarm 3							
Alarm 4							
Isolate							
Siren Tones: Alarm			Sweep			Sweep	
Tamper	Sweep						
Siren Lockout	Y		Y			Y	
Siren Re-Trigger							
LCD Terminal Message Types	1	1	1	1	1	1	1
H aux Seal opt							
H aux Alm opt							
H aux Tamp opt							
Home Aux Opts: Override Time							
Minute timer							
Extra Options: Refresh Only							
No Refresh							
Lift Buttons							
Home Aux Time							
Pin Type	6	6	6	1	1	1	1
Verify Group	1	1	1	1	1	1	1
SMS Tx Mode							
SMS First Phone No.							

**Process Group
to alter: 001**

This screen allows the Installer to jump to a particular Process Group to alter, or search for a particular Process Group by name.

**Find Pro. Grp ^
BURGLARY**

**PG001 name
BURGLARY**

This screen allows an optional name to be assigned to this Process Group, up to 16 characters long. It is recommended that Process Groups names be programmed for easy identification. This will simplify Area programming, where Process Groups are allocated to every Zone that is included in an Area.

**PG001 T.Zone ->
WEEKDAY**

This screen allows an optional TimeZone to be “attached” to this Process Group. When a TimeZone is “attached”, the Process Group is only valid when the Time Zone is valid. When the TimeZone is invalid the Process Group options are considered to be invalid OR the Process Group specified below will be used instead, if programmed. To select a TimeZone press the > key to scroll through all the available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this Process Group. (The ON key may be used to change modes to allow a TimeZone to be selected by number if desired).

**PG001 TimeZone
TZ001**

**PG001 Alt. Grp->
SILENT**

This screen specifies what Process Group will be used instead of this Process Group when an “attached” TimeZone is invalid. Note that if no alternative Process Group is specified and if the TimeZone is invalid, all options for the Process Group are also considered invalid.

**PG001 Alt. Group
PG002**

**PG001 TAEXUPLS
Type -> YYnnnnnn**

This screen determines the general type of the input / Zone when it is assigned to this Process Group.

T Tamper recognised

If “Y” then Tamperers will be recognised for Zones/Inputs assigned this Process Group in an Area. Note that the 24 Hour processing needs to be turned ON for an Area that you wish to process tamper alarms.

A Alarms Recognised

If “Y” then Alarms will be recognised for the Zones/Inputs assigned this Process Group in an Area if the Area is currently ON.

E Entry Zone

If “Y” then this Zone/Input is an Entry Zone/Input. This means that the alarm processing (not tamper) will be deferred by the entry timer as long as the entry timer is currently running. If the Area is turned OFF prior to the expiration of the entry timer, the alarm processing will be cancelled.

X Exit Zone

If “Y” then this Zone/Input is an Exit Zone/Input. This means that alarms (not tamperers) will be ignored during the exit delay, although alarm activity will be logged in review. Note that an alarm on a Zone/Input during exit delay that has not been flagged as an exit Zone will be processed immediately.

U Pulse Count Zone

If “Y” then this Zone/Input is a Pulse count Zone/Input. This means that alarms will only be processed on this Zone/Input if a number of alarms have occurred within a particular time window. The number of alarms and the time window are individually programmable on a per Area basis.

P Primary Entry Zone

If “Y” then this Zone/Input is a Primary entry Zone/Input. This means that if this is also an entry Zone/Input (“E” option set to “Y” above) then this Zone/Input is capable of starting the entry timer.

- L

Latch Input

If this option is set, the input can only report a single alarm, tamper or isolate until the latch input has been reset via a code entry. The latched input can only be cleared if the input is sealed. When the latched input is cleared, a restore will be generated.
- S

Single Pulse Input

If “Y” then this Zone/Input is a Single Pulse Input. If a zone is processed with the “Pulse Count” option above set to Yes AND this option is set to Yes, then only 1 pulse will be accepted from this zone during any pulse period. Eg. With a pulse count of 3 and all zones processed with the “S” option, then 3 different zones need to be “pulsed” to create an alarm. Ie. The alarm will only be reported when the Area registers an alarm from 3 different zones within a pulse period. This feature is good for false alarm rejection where necessary.

PG001ITAREXUS

Comms->nnnnnnnn

This screen determines what type of events will be reported for Zones/Inputs when they are assigned this Process Group.

- I

Isolations

If “Y” then Isolations for Zones/Inputs assigned this Process Group will trigger a report to a Comms Task for subsequent reporting to a Central Station.
- T

Tampers

If “Y” then Tampers for Zones/Inputs assigned this Process Group will trigger a report to a Comms Task for subsequent reporting to a Central Station.
- A

Alarms

If “Y” then Alarms for Zones/Inputs assigned this Process Group will trigger a report to a Comms Task for subsequent reporting to a Central Station.
- R

Restores

If “Y” then Restores for Zones/Inputs assigned this Process Group will trigger a report to a Comms Task for subsequent reporting to a Central Station.
- E

Entry alarms

If “Y” then alarms occurring during entry delay for Zones/Inputs assigned this Process Group will trigger a report to a Comms Task for subsequent reporting to a Central Station. Other alarm processing such as turning on sirens will remain deferred.
- X

Exit alarms

If “Y” then alarms occurring during exit delay for Zones/Inputs assigned this Process Group will trigger a report to a Comms Task for subsequent reporting to a Central Station.
- U

Unseal restores

If “Y” then Restores will be sent for all Unsealed Zones/Inputs assigned this Process Group on an Area opening. (Restores would normally only be sent if the zone is sealed).
- S

Single Hit

If “Y” then only up to 3 transmit entries will be saved for the Input during each period that the Area is armed. Entries are saved in the order alarm, tamper and isolate. This prevents multiple breaks being reported to the Central Monitoring Station. (Previously, in V1 and V2, this was an option under CommsTasks).

PG001Contact

ID Msg:000

This screen determines what Contact ID message (Event Code) will be used whenever Zones/Inputs with this Process Group are reported via the Ademco Contact ID format, or other formats that utilize Contact ID Event Codes.
If left at 000, a default Contact ID message will be sent.
For details of Contact ID messages and Defaults, refer to “System Inputs” and “Contact ID messages” in the Tables section.

PG001 4+2 Pulse
Msg: 00

This screen allows the Installer to enter the 4+2 Pulse format code for this process group. Decimal or Hex digits may be used but Installers should first check the compatibility of such codes with the specific Central Station.

For more information, refer to "Comms Task Formats. 19 - 4+2 Pulse Dialer."

PG001 T1234I..
Auxes-> nnnnnnnn

This screen determines what Area Auxiliaries will be triggered for Zone/Inputs that are assigned this Process Group.

T	Tamper	If "Y" then the Area Tamper Auxiliary (see Area programming) will be turned on if a tamper occurs on Zones/Inputs assigned this Process Group in an Area.
1	Alarm 1 Auxiliary	If "Y" then the Area Alarm 1 Auxiliary (see Area Programming) will be turned on if an alarm occurs on Zones/Inputs assigned this Process Group in an Area.
2	Alarm 2 Auxiliary	If "Y" then the Area Alarm 2 Auxiliary (see Area Programming) will be turned on if an alarm occurs on Zones/Inputs assigned this Process Group in an Area and will turn off when those inputs are sealed.
3	Alarm 3 Auxiliary	If "Y" then the Area Alarm 3 Auxiliary (see Area Programming) will be turned on if an alarm occurs on Zones/Inputs assigned this Process Group in an Area.
4	Alarm 4 Auxiliary	If "Y" then the Area Alarm 4 Auxiliary (see Area Programming) will be turned on if an alarm occurs on Zones/Inputs assigned this Process Group in an Area.
I	Isolate Auxiliary	If "Y" then the Area Isolate Auxiliary (see Area Programming) will be turned on if an isolate occurs on Zones/Inputs assigned this Process Group in an Area and will turn off when all inputs are de-isolated.
.	Spare	This option is not used at this time.

PG001 Alm. Sir->
tone: Bell

This screen determines what type of siren tone to use when an alarm occurs on a Zone/Input assigned this Process Group in an Area.

Tone	Description
None	Zones/Inputs allocated this Process Group will not activate Sirens when an alarm occurs.
Bell	Sound a "school bell" type sound
Sweep	Sound a burglary "sweeping frequency" type sound
Fire	Sound a 2 tone type sound
Evac	Sound an "evacuation" type sound

Note: If the Siren is already sounding and another tone is requested then an implied priority scheme exists. The tone will only change if the new tone is a higher priority than the current tone. Evacuation is the highest priority and bell is the lowest priority.

PG001 Tam. Sir->
tone: Bell

This screen determines what type of siren tone to use when a tamper occurs on a Zone/Input assigned this Process Group in an Area.

Tone	Description
None	Zones/Inputs allocated this Process Group will not activate Sirens when a tamper occurs.
Bell	Sound a “school bell” type sound
Sweep	Sound a burglary “sweeping frequency” type sound
Fire	Sound a 2 tone type sound
Evac	Sound an “evacuation” type sound

Note: If the Siren is already sounding and another tone is requested then an implied priority scheme exists. The tone will only change if the new tone is a higher priority than the current tone. Evacuation is the highest priority and bell is the lowest priority.

PG001 Siren
Lockout ? n

This screen determines whether Zones/Inputs that are assigned this Process Group and have started a siren, will be automatically isolated at the end of the siren time. Any Zones/Inputs isolated by this Siren Lockout function will be de-isolated when the Area is turned off, or can be de-isolated manually if desired.

PG001 Siren
Retrigger ? n

This option allows siren zones to **re-start** the siren timer, even when the siren timer is already running. This option allows a dummy Area to be easily adapted to monitor movement activity. Whenever movement is detected in the Area, the zones re-trigger the siren timer and turn on the siren auxiliary.

This feature may be utilised in a similar fashion with NO sirens connected. When movement ceases for a time exceeding the pre-programmed siren time, the siren auxiliary turns off. The siren auxiliary can be used to arm Areas, control air-conditioned Areas, turn lights on/off, etc.

PG001 12345678
Msgs-> Ynnnnnnn

This option determines if LCD Terminal messages will be generated by alarms/tampers on Zones/Inputs assigned this Process Group in an Area. Terminals can be individually programmed as to what message numbers to display. In the example on the left messages generated by this Process Group will be type 1 and 3. Only Terminals which have their type 1 OR type 3 message screens set to yes will accept messages from this Process Group.

Home Auxiliaries for Zones

A new option in Input Programming allows a nominated home auxiliary to be assigned to a particular zone. The following Process Group screens define how the state of the zone will control the home auxiliary.

**PG001 Haux on ->
Seal: None**

This option determines how the home auxiliary will be controlled when the zone seals.

None

This input state will have no effect on the home auxiliary.

Turn On

When the zone changes to this state, the home auxiliary will turn On

Turn Off

When the zone changes to this state, the home auxiliary will turn Off

Toggle

When the zone changes to this state, the home auxiliary will toggle

**PG001 Haux on ->
Alarm: None**

This option determines how the home auxiliary will be controlled when the zone goes into alarm.

None

This input state will have no effect on the home auxiliary.

Turn On

When the zone changes to this state, the home auxiliary will turn On

Turn Off

When the zone changes to this state, the home auxiliary will turn Off

Toggle

When the zone changes to this state, the home auxiliary will toggle

**PG001 Haux on ->
Tamper: None**

This option determines how the home auxiliary will be controlled when the zone goes into tamper condition.

None

This input state will have no effect on the home auxiliary.

Turn On

When the zone changes to this state, the home auxiliary will turn On

Turn Off

When the zone changes to this state, the home auxiliary will turn Off

Toggle

When the zone changes to this state, the home auxiliary will toggle

**PG001 Haux OM
Options -> nn**

This screen allows the installer to programme the timer option for home auxiliary control.

Do not use the timer options if the Home Auxiliary controls an Auxiliary List. If timing is required in such cases, use Auxiliary Timers [MENU 5,5].

O **Override Time**

If set to "Y", the timing parameters associated with this function will override any existing timing condition that is currently running on the auxiliary.

M **Minute Timer**

If set to "Y", the time period specified in the following screen will be in minutes. If left as "n", the time will be in seconds.

PG001 RN.....L
XOpts-> nnnnnnnn

This screen allows the Installer to set some extra Process Group Options.

- | | | |
|---|-----------------|---|
| R | Refresh | If set to “Y”, Zones assigned this Process Group are unable to turn Auxiliaries On, but they are able to refresh the Auxiliary’s current state by restarting a Auxiliary Timer. |
| N | No Refresh | If set to “Y”, Zones assigned this Process Group are unable to restart Auxiliary Timers. |
| L | Lift Processing | This option must be set to “Y” if this Zone is used for Lift button feedback. |
| . | Spare | This option is not used at this time. |

PG001 Haux Aux
Time 000 sec/min

This screen allows the home auxiliary action to be timed. To enable the timer option, programme the time period in seconds or minutes. To disable the timer option, ensure the time period is set to 000.

IMPORTANT NOTE: Do not use the timer options if the Home Auxiliary controls an Auxiliary List. If timing is required in such cases, use Auxiliary Timers [MENU 5,5].

PG001 Pin Type->
3 Intruder

Pin Type. “8 Pin” Comms Task format. (V4.5 or later) This screen determines what Pin number will be triggered whenever Zones/Inputs with this Process Group are reported via the “8 Pin” format.

For more information, refer to “Comms Task Formats. 22 - 8 Pin.”

Pin definitions.

1	Fire
2	PA
3	Intruder
4	Open / Close (Cannot be assigned in this option)
5	Medical
6	System
7	Verify (Cannot be assigned in this option)
8	Plant

PG001 Verify ->
Group 1

Verify Group. “8 Pin” Comms Task format. (V4.5 or later) This screen selects which Verify Group the Inputs assigned with this Process Group will belong to. One of 16 Verify Groups can be selected.

A Verify can only be generated when different Intruder Pin (Pin 3) Inputs within the same Verify Group are triggered within the Verify Time.

For more information, refer to “Comms Task Formats. 22 - 8 Pin.”

SMS Alarm Messaging Options (V4.5 or later)

These Process Group options allow the installer to select the type of SMS Alarm messaging required and the Telephone number to be used, for reporting SMS alarm messages on Inputs that have this Process Group assigned.

These options are defined in Process Group programming to:

- Allow the Installer to define which type of alarms are reported via SMS messages.
- Allow different types of Alarms to be sent to different Telephones with different acknowledgement requirements if required.

Programming these SMS Alarm messaging functions also provides the options of:

- Sending the messages to multiple Phones.
- Implementing the SMS Alarm Acknowledgement feature.

These options are programmed in conjunction with the GSM Comms Task which enables an FE3000 GSM Modem to be connected to the Control Module for Primary or Backup reporting and remote control.

See "GSM Comms Task" (Comms-17) in the *Comms Task Formats* section for details.

PG001 Tx SMS ->
No SMS

This screen allows the type of SMS Alarm Messaging to be chosen for Alarms generated by this Process Group. In Control Module Firmware V4.5 or later, one of these options **MUST** be selected if SMS Alarm Messages are required.

NOTES:

- 1) Area Open/Close messages can only be sent to the "SMS 1" Telephone number programmed in the GSM Comms Task and are not effected by the setting in this screen.
- 2) The "S"ingle Hit in the Comms options screen (ITAREXUS) must be set to No if any of the "Tx SMS" options are selected.

No SMS

SMS alarm messages will not be generated by this Process Group.

One #, No Ack

SMS alarm messages generated by this Process Group will be sent to the "SMS No." defined in the next screen.
No acknowledgement is required.

One #, with Ack

SMS alarm messages generated by this Process Group will be sent to the "SMS No." defined in the next screen.
Each Alarm message needs to be acknowledged by the Phone that the message is sent to, within the "SMS Acknowledge Time" defined in GSM Comms Task programming.

List with Ack

SMS alarm messages generated by this Process Group will be sent to a series (List) of Telephone numbers, beginning with the "SMS No." defined in the next screen, until the message is acknowledged or until a gap (null entry) is detected in the Telephone number programming.
Each Alarm message needs to be acknowledged by the Phone that the message is sent to, within the "SMS Acknowledge Time" defined in GSM Comms Task programming.
When an Alarm message is acknowledged, that message will not be sent to any more Telephone numbers in the series.

List no Ack

SMS alarm messages generated by this Process Group will be sent to a series (List) of Telephone numbers, as quickly as possible, beginning with the "SMS No." defined in the next screen.
No acknowledgement is required.
Each message will be sent to the defined "SMS No." then will be sent to all

subsequent Telephone numbers programmed in the system until a gap (null entry) is detected in the Telephone number programming.

**PG001 SMS No. ->
None**

This screen allows the SMS Telephone number to be defined.
The Telephone number is chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number.
See Telephone Number programming. MENU, 7, 3, 2.

If "One #, No Ack" or "One # with Ack" selected.

SMS Alarm messages will be sent to this Telephone number.

NOTES:

If this number is defined, alarm messages will not be sent to the "SMS 1" Telephone number defined in the GSM Comms Task.

Note that the same telephone number can be assigned to the "SMS No." here, and to the "SMS 1" number if required.

If this number is not defined, the alarm messages will be sent to the "SMS 1" Telephone number. (If it has been programmed)

If "List with Ack" or "List no Ack" selected.

This is the first Telephone number in the series (or "List") that SMS Alarm messages will be sent to.

The number of Telephone numbers in the List is determined by how the entries are programmed in Telephone Number programming. (MENU, 7, 3, 2)

The "List" will consist of the Telephone number defined, plus all subsequent Telephone numbers programmed until there is a "null" entry. i.e. A Telephone Number record that is left blank.

This allows the "List" to contain any number of Telephone numbers up to the maximum allowed in the Memory size and configuration selected.

If a Telephone number with a TimeZone assigned is Invalid, then that Telephone number will be skipped, or the alternate Telephone number will be used if defined.

SMS Alarm Messages example.

A system is programmed as follows:

- The "SMS No." is Telephone number TN003.
- Telephone numbers TN003, TN004 TN005 and TN006 are programmed.
- Telephone number TN007 is NOT programmed.
- The "SMS Ack Time" is set to 8. (8 x 15 Secs = 2 minutes)

Operation when "List with Ack" is selected.

- 1) When an alarm occurs, the system will send the SMS alarm text to TN003.
- 2) a) If an acknowledge is received from TN003, no further messages are sent.
b) If an acknowledge is not received from TN003 within the Ack time, the message is then sent to TN004.
This sequence continues until an acknowledge is received, or until the message has been sent to all the Telephone numbers in the series. (TN003 to TN006)
- 3) If an acknowledge is not received from any of the Telephone Numbers, a "No Ack" Review message will be generated and the "GSM Problem" System Input (C01:S30) is set to the Alarm state.

Operation when "List no Ack" is selected.

- 1) When an alarm occurs, the system will send the SMS alarm text to all Telephone Numbers in the series (TN003 to TN006) as quickly as possible.

Process Group Defaulting

Two options are available by which to default Process Group Programming to factory settings. These are explained below:

**Process Group to
alter: PG001**

At the first Process Group Programming screen press HELP, "9".

**P.Grp. Default ->
Don't Default**

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will reset the following Process Groups:

PG001	BURGLARY
PG002	BURGLARY DELAYED
PG003	BURGLARY PRIMARY
PG004	LOCAL SILENT
PG005	FIRE ZONE
PG006	DURESS (Version 4.5 or later only)
PG007	AUTOMATION (Version 4.5 or later only)
PG009	SYSTEM TAMPER
PG010	SYSTEM SILENT
PG011	SYSTEM LAN
PG012	SYSTEM LOCAL
PG013	ACCESS LOCAL
PG014	ACCESS ALARM
PG015	ACCESS SILENT

In addition, this option will delete all other Process Groups, if present.

Standard

Selecting this option will reset the following Process Groups:

PG001	BURGLARY
PG002	BURGLARY DELAYED
PG003	BURGLARY PRIMARY
PG004	LOCAL SILENT
PG005	FIRE ZONE
PG006	DURESS (Version 4.5 or later only)
PG007	AUTOMATION (Version 4.5 or later only)
PG009	SYSTEM TAMPER
PG010	SYSTEM SILENT
PG011	SYSTEM LAN
PG012	SYSTEM LOCAL
PG013	ACCESS LOCAL
PG014	ACCESS ALARM
PG015	ACCESS SILENT

This option will make no alterations to any other Process Groups, if present.

**Push '9' key to
Confirm Default**

The confirmation screen is displayed. Press the "9" Key to confirm your selection.

**Default
Done**

The default procedure is confirmed.

Site Code Programming

Site Codes are used in conjunction with access control Cards that use a Site Code method. The 3000/4000 allows a number of Site Codes to be stored. This is useful when a Card holder from one site wishes to use their Card on another site with a different Site Code, or when a different batches of Cards are used on a multi-tenant site.

Site Code to
alter: SC001

This screen allows a Site Code to be selected for programming. There can be many Site Codes in a larger system, if desired.

These next screens allow the actual Site Code to be stored. Site Codes may be entered in any one of 3 different formats; 10 digit Hex, 5 digit Decimal or 3 digit Decimal.

The ON key is used to select the appropriate format screen for programming the Site Code. See the table on the following page for the recommended screen to use.

SC001 Code:
0000000000

The first screen allows Site Codes of up to 10 digits to be programmed.

Up to V4:

The Site Code characters are entered on the Left-hand side of the screen and trailing zeros are ignored.

e.g.

For 8 Bit Site Code. (26 Bit Wiegand). Site Code = "D2" Hex. (210 Decimal)

The Site Code data will be entered as "D200000000".

For 16 Bit Site Code. (34 Bit Wiegand). Site Code = "2710" Hex. (10,000 Decimal)

The Site Code data will be entered as "2710000000".

For IR Mag Swipe Format. The 10 digit Site Code supplied is entered.

V4.5 or later:

WIEGAND FORMATS; "Standard" and "General" Site Code Types.

The Hex characters are entered at the Right-hand side of the screen.

e.g.

For 8 Bit Site Code. (26 Bit Wiegand or General Site Code: Site size=08)

If the Site Code in Hex format is "D2" (210 Decimal), the Site Code data will be entered as "00000000D2".

For 12 Bit Site Code. (27 Bit Wiegand or General Site Code: Site size=12)

If the Site Code in Hex format is "3E8" (1,000 Decimal), the Site Code data will be entered as "00000003E8".

For 16 Bit Site Code. (34 Bit Wiegand or General Site Code: Site size=16)

If the Site Code in Hex format is "2710" (10,000 Decimal), the Site Code data will be entered as "0000002710".

MAG SWIPE FORMATS; "Standard" Site Code Type. (IR Mag Swipe Format)

The 10 digit Site Code supplied is entered.

MAG SWIPE FORMATS; "General" Site Code Type.

The Site Code characters are entered on the Left-hand side of the screen and trailing zeros are ignored.

e.g.

Site Code = 987654. The Site Code data is entered as "9876540000".

Site Code = 7654. The Site Code data is entered as "7654000000".

IMPORTANT NOTES:

1) "Standard" Site Code method also supports the 27 Bit (Indala -12 Bit Site Code) and 36 Bit (18 Bit Site Code) formats. Site Codes are not supported in other formats.

2) "General" Site Code method. Refer to "Site Code Type" and "General Site Code Parameters" in General System Options (MENU, 7, 5, 1) for more details.

SC001 Code:
00000

This second screen allows up to 5 digit Site Codes to be programmed in the Decimal format. This screen should be used whenever the Site Code in a Wiegand format is greater than 8 Bits in length, and less than 17 Bits in length.
i.e. Site Codes up to a value of 65535 (Decimal) can be entered.

SC001 Code:
000

This third screen allows up to 3 digit Site Codes to be programmed in the Decimal format.
NOTE: This screen should only be used for Site Codes up to 8 Bits in length.
i.e. Site Codes up to a value of 255 (Decimal) can be entered.
If the Site Code is greater than 8 Bits in length, one of the previous two screens must be used.

Card Format Site Code Programming. Standard Site Code Type.

Format	Site Code provided	Screen to use
IR Mag. Swipe (Site Code Type)	10 Hex digits	First screen
26 Bit	000 to 255 (SC=8 Bits)	Third screen
27 Bit (Indala)	00000 to 04095 (SC=12 Bits)	Second screen
34 Bit (HID)	00000 to 65535 (SC=16 Bits)	Second screen
36 Bit (18 Bit Site Code)	00000 to 3FFFF (Hex)	First screen

Card Format Site Code Programming. General Site Code Type. (V4.5 or later)

Format	Site Code provided	Screen to use
Site Code = 1 to 8 Bits	000 to 255	Third screen
Site Code = 9 to 16 Bits	00000 to 65535	Second screen
Site Code = 17 to 19 Bits	00000 to 7FFFF (Hex)	First screen

NOTE: If the Site Code Data is only provided in Hex format, the First screen (10 Hex digits) can be used with any Card Format. See details on the previous page.

Site Code Offset

SC001 Card #
Offset: 00000

This screen allows an optional offset to be **subtracted** from the Card number in order to get the Card to match up with a particular User number in the system. Whenever a Card with this Site Code is detected, the number above will be subtracted from the Card ID number (Card#).

If you wish to **add** an offset to the Card number, set the above offset to:
65536 - "n"

Where "n" is the number you wish to add to the Card.

SC001
present ? Y

This screen is to enable or disable the particular Site Code for use in the system.

Backup Card Programming

When a Card is swiped at a Reader unit or a REN/REX button is pushed, all access related decisions are usually made by the Control Module. In the event of loss of communications with the Control Module, each Reader Module can be programmed to make limited access decisions, if desired. In Reader Module Programming, the Programmer can select if the REN and/or REX button will operate when communication is lost and can also select if Backup Cards will operate.

Up to 127 Backup Cards, referred to as BC001 to BC127, can be stored in a Reader Module. Note however, that different types and/or versions of Reader Modules and Control Modules are capable of supporting different numbers of Backup Cards. The same Backup Cards are contained in all Reader Modules up to the maximum supported by the Reader Module type.

The table below provides a cross reference of the number of Backup Cards available with the different combinations of Reader Module versions and Control Module Firmware versions.

Reader Module Type / Version	Part Number	Control Module Firmware Version	
		V3.55 or earlier	V3.56 or later
2 Door Reader Module. (Through-hole PCB assembly)	993012 (Obsolete)	15	15
2 Door Reader Module.	995012	15	31
Single Door Reader Module.	995011	15	31
Enhanced 2 Door Reader Module. V1.10 or later.	995012ENH	15	127
Enhanced Single Door Reader Module. V1.07 or later.	995011ENH	15	127

Backup Cards must be enrolled into the system by swiping the Cards at Reader #01 or another Reader Module, if specified in the General System Options [MENU 7,5,1] "Reader for User Programming". When a Backup Card is swiped for enrollment, the Card data is transmitted to all Reader Modules for non-volatile storage.

Once stored in the Reader Modules, the Backup Card data will continue to be stored even if the Reader is un-powered. (Non-volatile storage)

In the event of lengthy communication failure, all Backup Cards stored (or only the first two Cards if selected as an option in Reader Module Programming) will operate the Door Lock for 5 seconds. (As long as the Module has power.)

A Backup Card does not need to relate to a User Card. Backup Cards can be a Card of any format that the Reader will accept and will operate regardless of TimeZones or other access related reasons. If communications are operative, Backup Cards are not accepted, although the same Card may be accepted as a valid User, if programmed.

Backup Cards used at a standard Reader whilst the Reader is in LAN Fail will not generate a Review entry. This is also the case for REN and REX buttons.

See "Backup Options" in "Reader Programming" for more details.

**Backup Card to
Swipe: BC001**

This screen allows a Backup Card to be selected for programming. There are a maximum of 127 possible Backup Cards for Reader Modules, BC001 to BC127. (Only 15 Backup Cards can be selected in Control Module firmware V3.55 or earlier)

Note that the number of Backup Cards supported varies with Reader Module versions and the Control Module Firmware version.

See the table on the previous page.

BC001 and BC002 can be treated as high security Cards at some Readers, if desired. See "Reader Programming".

**Waiting for
BC012 at R01**

When this screen is displayed you have 10 seconds to present a Card that will be stored as a Backup Card in all Readers. In this example, any Card swiped will be stored as Backup Card 12. If the 10 second time-out expires or any key except the END key is pressed, the Backup Card will be erased from all Readers. If the END key is pressed before the 10 second time-out, no change will be made.

Present the Cards at a Reader connected to the Reader Module specified under General System Options [MENU 7,5,1] "Reader for User Programming". The factory default for this option is Reader Module #1 (R01).

Important:

A LAN Secure [MENU 7,8,1] or LAN Init [MENU 7,8,2] must be performed once all Cards are programmed.

Isolate

The Isolate option allows the Installer or User to Isolate or De-isolate Zone Inputs, System Inputs or Home Zones.

There are two methods of selecting a Zone for Isolation or De-isolation; "Zone ID" method or "Home Zones" method.

The method to be used by the User will be determined by the Menu Group assigned to their User Type.

If the "H" flag is set under the Other options screen in Menu Group Programming, any User Types with this Menu Group will only see those Zones programmed as Home Zones.

This enables the Installer to programme those non-critical Zones as Home Zones and provides for three levels of isolation rights; no isolations, isolations of Home Zones only and isolations of any Zone.

Zone to Isolate
C01:Z01

Zone ID Selection

Zone ID allows selection of any Zone or System Input in the system by Zone ID number or by searching through the Zone list in numerical order for the Zone name.

The display will prompt the User to enter the Module/Zone (Input) ID of the Zone they wish to isolate.

If the Zone ID is known, press the OFF key to clear the screen, enter the letters/numbers of the Zone ID via the DIGIT keys and then press the OK key.

If the ID is not known, press the ON key, scroll through the Zone names in numerical order using the UP and DOWN Arrow Keys and then press the OK Key. (Alpha-search using the digit keys is NOT available in the method).

Office Door Reed
Enabled

HomeZone Selection

Those User Types programmed to use Home Zones will see the status of the first Home Zone when they initially enter the Isolate Menu.

The UP and DOWN Arrow Keys are used to move through the named Home Zones in alphabetical order.

Alternatively, the User may press the DIGIT Key that represents the first letter of the name. If the name of the desired Zone is not displayed because of other names starting with the same letter, the DOWN Arrow Key may be used to locate the name. When the correct name is displayed, press the OK Key to proceed.

See "HomeZone Programming" [MENU 7,5,7] for further details on HomeZones.

Isolating / De-isolating the Zone

**RECEPTION PIR
Enabled**

This screen displays the name and current status of the selected Zone/Input.

The OFF Key is used to isolate the Zone displayed. Any Zones isolated in this manner are automatically de-isolated when the Area is next turned OFF.

The ON Key is used to de-isolate or enable the Zone.

The RIGHT Arrow Key is used to “Sticky Isolate” the Zone. Any Zone isolated in this manner will remain isolated unless de-isolated from the LCD Terminal via this Menu option. (V3 or later only)

**Zone is
now isolated**

A brief message will appear on the display to confirm that the operation was successful.

When complete, press the OK Key to return to the “Zone to Isolate” display.

Reporting “Sticky” Isolate / De-isolate

Any Input assigned to an Area with a Process Group that has the “I”solates option set to Yes in the Comms options will report Isolate/De-isolate.

When a Zone Input is “Sticky” Isolated, the Isolate/De-isolate reporting will be slightly different depending on the Control Module firmware Version.

V3.00 to V3.5x:

An Isolate report will only be sent once for each time the Zone is “Sticky” Isolated, regardless of how often the Area is turned off and back on again while the Zone is still isolated.

V4.00 or later:

An Isolate report will be sent for the Zone every time the Area is turned on as long as the Zone remains Isolated. This helps to ensure that Zones that are “Sticky” isolated are not neglected by the monitoring station.

Test Inputs

Input to test:
C01:Z01

This screen allows the Testing of individual Inputs (Zones).
The display will prompt you to enter the Module/Zone (Input) ID of the Zone you wish to test. If the Zone ID is known, use the OFF key to clear the screen, then enter the letters/numbers of the Zone ID with the digit keys, then press OK. If the ID is not known, press the ON key, then search through the Zones by name using the UP and DOWN Arrow keys, then OK.

Both methods may be used as the ON key can change the mode at any time.

VAULT DOOR
(E01:Z03) Sealed

The display will now show the Zone/Input name, ID and its test status:

Sealed	Device is not activated	(eg. Door Shut)
Alarm	Device is activated	(eg. Door Open)
Tamper	Device/cabling is faulty or doesn't exist.	

The status message will update instantly, allowing you to test the Zone by activating the Input device. A short beep is emitted by the Terminal any time the Zone under test changes state. When complete press the OK key to return to the "Input to test" display.

Zone Array Testing (Testing multiple Inputs)

PANIC BUTTON
(E01:Z01) Sealed

Zone Array Testing allows the User to test Zones in groups of eight. Follow the procedure for selecting an individual Zone to test, selecting the Zone that will be the first zone in the Array, then press OK.

E01:Z01 12345678
Array

When the Test status display, similar to the one above, is shown press the ON key. The display will change to show the ID of the first Zone and a number representing each of the eight Zones in the Array. Zone Array testing in this mode is dynamic, allowing the display to continuously update to show the actual state of the zone.

E01:Z01 12345678
Results

Latching Zone Array testing may also be selected by pressing the ON key a second time. The "Results" screen will be displayed and the zone status will latch, allowing walk testing to be performed by one person. The latched status messages will be cleared when the operator exits the screen.

E01:Z01 12345678
Array A A T

A letter under the number representing each Zone will indicate that Zone's test status:

E01:Z01 12345678
Results ABAAAATB

Blank	Device is not activated	(eg. Door Shut)
"A"larm	Device is activated	(eg. Door Open)
"T"amper	Device/cabling is faulty or doesn't exist	
"B"oth	"Results" screen only.	
	Device has been activated and tampered.	

The status messages will update instantly, allowing you to test the Zones by activating their Input devices. A short beep is emitted by the Terminal any time one of the Zones under test changes state.

The UP and DOWN arrow keys can be used to move the Zone Array across or back, one Input at a time.

The UP and DOWN arrows will also reset the "Results" screen.
ie. When you have tested all the Zones in one Zone Array display, press the DOWN arrow eight times to display the next eight Zones.
When complete, press the OK key to return to the "Input to Test" display.

Testing Zone Inputs on “B” Type (32 Zone) Universal Expanders

When a 16 Zone Expander board 993006 is NOT fitted to the Universal Expander in the “B” type configuration, Zones 17 to 32 may appear as being in the Alarm or Tamper state when viewed via the Test Menu.

THIS WILL NOT AFFECT SYSTEM OPERATION. These Zones will not physically exist on the module and would therefore not be assigned to any Areas or programmed to perform any function.

The previous version of the Expander Module automatically treated these Zones as sealed when the 16 Zone Expander board was removed. In the Universal Expander, this has been changed to provide protection against unauthorised removal of a 16 Zone Expander. This enhances the protection already provided by the cabinet tamper switch.

Test Auxiliaries

Aux to Operate:
C01:X01

This screen allows an individual Auxiliary to be selected for testing. The display will prompt you to enter the Module/Auxiliary ID of the Auxiliary to be tested.

C01:X01
is Off. Press On.

When you have selected the Auxiliary to be tested, this screen will allow you to use the ON and OFF keys to toggle the Auxiliary On and/or Off. If the Auxiliary changes state due to some other function or operation in the system, the screen will be automatically updated within 1 second.

Calculated Auxes
are Off

Calculated Auxes
are On

All Calculated Auxiliaries may be disabled **whilst this screen is displayed** by pressing the "1" key. This allows for easier testing of individual Auxiliaries where complex Calculated Auxiliaries may interact with the Auxiliary being tested. The screen will briefly display a message to indicate the status of the Calculated Auxiliaries after you have pressed the "1" key. Pressing the "1" key again will re-enable the Calculated Auxiliaries.
(The Calculated Auxiliaries will be automatically re-enabled if the "END" or "MENU" key is pressed.)

Test Sirens

Siren outputs can be tested to ensure that they are fully operational. The “Test Sirens” option provides a simple and convenient procedure for doing this.

Siren to
Operate: C01

This display will prompt the Installer to enter the Module ID of the Siren/s that are to be tested.

The display shows the Control Module Sirens by default. Expander Module Sirens may be tested by first pressing OFF to clear the screen and then entering the letter/number of the Expander Module followed by the OK key.

- C01 = Control Module (Main Panel)
- E01 = Expander Module 1
- E02 = Expander Module 2
- B01 = Big Expander Module 1
- B02 = Big Expander Module 2

NOTE:
When mapping Sirens, both “E” Type Expanders and “B” Type Expanders are considered to be one and the same. When testing or activating the Siren attached to E01, Sirens attached to both E01 and B01 will sound.

Conversely, when testing or activating the Siren attached to B01, Sirens attached to both B01 and E01 will sound.

E01 Sirens are
Off. Press On.

The display will now show the Module ID and Siren test status. Press the On key or Off key to turn Siren testing On and Off as required.

- While Siren Test is ON, the DIGIT keys may be used to:
- Alter the Siren Tone.
 - Select which Siren Outputs to activate.

Key No.	Tone
1	Bell
2	Sweep
3	Fire
4	Evacuation
	Output
8	Internal Siren Only
9	External Siren Only
<ON>	Both Sirens
<OFF>	Turn All Sirens Off

Another Module may be selected for Siren Testing by using the UP and DOWN arrow keys.

When complete, press the OK key to return to the “Siren to Operate” display.

Test Telecom Line

The telephone line can be manually tested using the “Test Telecom” option.

Unlooped Rng:000
Unseized No Line

The first display will indicate the status of the line.

Looped: Quiet
Seized No Line

Key Functions in Test Telecom

OK Key	Toggles seize relay On and Off.
ON Key	Loops the Line and switches On the seize relay.
OFF Key	Unloops the Line and switches Off the seize relay.
LEFT or RIGHT Arrow	Selects DTMF or Decadic Dialling.
HELP Key	Toggles impedance switch On and Off. (If present)
DIGIT Keys (0 to 9)	Dials the digit when the Line is Looped.
UP or DOWN Arrow	Selects special test for factory service. Not used by Installer.

Test Cards

Cards can be tested by selecting the "Test Card" option and then presenting the Card at any Reader connected to Reader Module number 1.

(Or another Reader Module if it is programmed as the "Reader for User Programming" in the System General Options. (MENU, 7, 5, 1)

Site Code and Card ID information required for programming should be supplied when purchasing cards. This "Test Card" option will only need to be used for diagnostic purposes if instructed by the manufacturer or distributor.

The Reader Module must be programmed with an appropriate Card format and Type (MENU 7, 2, 4) and a LAN Initialise or LAN Secure performed (MENU 7, 8, 2, or MENU, 7, 8, 1) before "Test Cards" can be utilised.

(See additional information below)

Waiting for Card at R01

When the test option is selected, the screen will prompt the Installer to present the Card at the nominated Reader. The Installer has 10 seconds to present the Card.

When the Card is presented, the display will change to show the Card details. The manner in which the Card details are interpreted will vary depending upon the format of the Reader and Card.

NOTE: Prior to V4, the screen will always display "R01", even if a different Reader Module has been specified under MENU 7-5-1 as the Reader at which card data is entered into the system.

Reading Cards via the Test Cards Menu

The Model 3000 / Access 4000 provides a convenient method of determining a non-proprietary proximity card's Format, Site code and Card number via the card test menu. All non-proprietary cards utilising the industry standard Wiegand format can easily be read to determine the information needed to enter User cards in the Site code method.

Site coding of cards provides an easy method of adding additional users and replacing existing user's cards on the system. Once a site code has been registered on the system, only the individual card number needs to be entered for that particular user. Unlike direct entry and credit card formats, no "enrolling" of each card is required, providing a very simple method to add large numbers of users to a system.

The information displayed in the Test Card Menu is in HEXADECIMAL format, and will require conversion to DECIMAL for comparison to the card number printed on the card. To read a card from the card test menu, the reader being used must be programmed for the particular card type and format. When reading Wiegand format cards, when the number of bits is unknown, the format should be set to "Nbit Wiegand". This will determine the correct bit format to be used for non-proprietary cards.

Once the reader is programmed correctly and "LAN Initialize" or "LAN Secure" is performed, a card can be read. Enter the Test Card Menu (Menu 4, 5) and present the card to be read at the nominated Reader. If read correctly the screen will display 2 lines of hexadecimal characters. Only the first 12 characters on the top line are relevant.

e.g.

In the case of a 26 bit Wiegand card number 451 with a site code of 55.

Remembering the data is displayed in Hex, the terminal will show: 039A3701C300

Every 2 Hex digits represent 1 byte of information from the card with the exception of most of the first 2 bytes, which are generated by the Reader module. From this data the following information may be determined.

- 03 represents the card format programmed for the Reader. In this case format 03 which is "Nbit Wiegand".
(See Table 1 below).
- 9A represents the bit format of the card and an even parity bit for the first half of the card data. (see binary format).
- 37 represents the "Site code" or "Facility code" as it is also commonly known.

01C3 represents the card number in hex.

00 represents an odd parity for the last half of the card data.

When converted to Decimal the site code is 55 (37 Hex) and the card number is 00451 (01C3 Hex). By comparing this information with the site code provided by the manufacturer, and the number printed on the card, you can determine that the reader format and card type programmed are correct.

Note, the number printed on the card may not always match the number read via the test menu. This is usually an indication of a proprietary card format, produced specifically for use on a particular system or a particular facility. The only proprietary format utilized by Inner Range utilises is the Inner Range magnetic swipe card format which cannot be deciphered via the Test Card Menu.

Binary Format

To be able to determine the actual card bit format (eg 26 bit- 32 bit etc.) you must first convert the information into binary format. Using the same sample card information above and converting it to binary format, we can determine the following.

Sample Card data in Hex format: 039A3701C30.

Converted to binary:

0=0000

3=0011

9=1001

A=1010

3=0011

7=0111

0=0000

1=0001

C=1100

3=0011

0=0000

0=0000

Together:

000000111001101000110111000000011100001100000000

This represents 48 bits of binary data. However, it is known that the card is 26 bit and that most of the first 2 bytes is generated from the Reader Module and not the card.

Removing 03 (The 1st byte) leaves 40 bits: 1001101000110111000000011100001100000000.

The last byte (8 bits) represents the odd parity of the last half of the card data. As the parity only consists of 1 bit, the last 7 bits may be removed: 100110100011011100000001110000110.

What was the 2nd byte (9A) contains both the parity bit for the first half of the card data (the 1st bit) and the card format (the other 7 bits).

Therefore, by removing the 2nd to 7th bits, and leaving the parity bit, 26 bits remain.

The remaining 26 bits are: Even parity: 1 bit; Site code 8 bits; Card number 16 bits: Odd parity 1 bit.

An alternate and easier way of determining the bit format is to simply convert the 2nd byte (9A in our example) to binary, giving 10011010. The first bit of this byte represents the even parity bit. And as the first 12 bits of the card data above contains only 5 bits set to 1, the parity is odd. The even parity bit, therefore, needs to be set to 1 to generate an EVEN number of 1's. So, by removing the even parity bit we are left with 0011010 which is 26 decimal.

Common Bit formats are represented as follows:

Bit Format	Format byte read. Parity bit = 1	Format byte read. Parity bit = 0	Binary. (Parity Bit removed)
26 bit Weigand	9A	1A	001 1010 = 26 Decimal
32 bit Weigand	A0	20	010 0000 = 32 Decimal
34 bit Weigand	A2	22	010 0010 = 34 Decimal

Reader Formats

Format Number	Format
01	SWIPE
02	INSERTION
03	Nbit Wiegand
04	26 bit Wiegand
05	30 bit Wiegand
06	30 bit Wiegand
07	34 bit Wiegand
08	36 bit Wiegand
09	37 bit Wiegand
0A	40 bit Wiegand
0B	Swipe Last
0C	27 bit Wiegand
0D	Nbit Fast
0E	Prox Pin

Test Memory

Memory check is performed to see if any changes have been made to the system programming since the last Memory check was performed. When the Memory Check is complete, a message will be saved to review for any part of the memory (database structure) that has been changed. This enables the service technician to determine in which part of the database the changes were made, eg. User, Area List, Process Group etc.

It is recommended that a Memory check is performed by the Installer once all initial programming of the system is complete. (Ignore the review results at this time). This then provides a point of reference for future Memory checks when required.

Confirm Memory
Check ?

When the “Test Memory” option is selected, the display will prompt the Installer to confirm the selection. Press the “9” key to proceed with the test.

Checking
Memory ...

This screen is then displayed whilst the test is in progress. Upon completion of the test, the display will return to the “Main Menu”.

Jan05 12:19:37.1
Chg in #228 - \$0

Review Memory can then be accessed and will show messages similar to this one which indicates that a change has occurred in Database structure number 228 (Area Lists) at the specified time and date.

Structure 193 (Comms Tasks) and 249 (Review) will always indicate changes, but these are due to the normal operation of the system and not necessarily programming changes.

Test Ports

The status of connections on any Ports on a UART Expander board fitted to the Control Module can be checked with the “Test Ports” option.

- The following functions can be tested:
- Communication between the Control Module and the UART Expander board.
 - All RS232 Input Control Lines.
 - All RS232 Output Control Lines.

Note that TxD (Transmit Data) and RxD (Receive Data) are not tested with this facility.

Port 1 IN: Cd=L
Cts=L Dsr=L Ri=L

When the option is first selected, the status of the RS232 **Input** signals on **Port 1** are displayed. Use the UP and DOWN Arrow keys to scroll through the Input status screens for the other Ports.

INPUT	DESCRIPTION
Cd	Carrier Detect
Cts	Clear To Send
Dsr	Data Set Ready
Ri	Ring Input

Port 1 OUT:
Dtr=L Rts=L

Use the LEFT and RIGHT Arrow keys to switch between the “INput Status” screen and the “OUTput status” screen for the Port being tested.

OUTPUT	DESCRIPTION
Dtr	Data Terminal Ready
Rts	Request To Send

- “1” key.
- “2” key.

- While the Port n “**OUTput status**” screen is displayed:
- Toggles the “Dtr” output line.
 - Toggles the “Rts” output line.

Port 1 IN: Not
Responding

If the Port is not working, the message “Not Responding” will be displayed. This indicates that the particular UART Port is not responding to instructions from the Control Module. Disconnect the Power and the Battery, and carefully check that the UART Port exists, and the UART Expander board is fitted onto the Control Module correctly.

Note that a Port can be tested while the Port is in use by a Comms Task without affecting the operation of the Port unless the Dtr or Rts outputs are toggled.

Test Power

The Test Power routine is used to help the Installer check that LAN Power distribution is correct. It also checks that all batteries are connected and charged. It is desirable to perform a LAN Secure prior to the Test Power routine. It is also useful to have the upload/download logging review so that review can be used to aid in testing.

When first entered, the system will enable certain specific system inputs on all modules that are connected and present so that their current state can be interrogated:

Terminals	LAN Fail Input
Zone Expanders	AC Fail Input
	Low Battery Input
	Detector Fuse Input
	LAN Fuse Input
	LAN Fail Input
Readers	Low Volts Input
	LAN Fail Input

Waiting to
Enable Inputs

Whilst the inputs are being enabled, these screens are displayed.

Waiting for
Status Replies

No reply from
LAN Module

If LAN Communication with a module is lost, an error screen similar to this one will be displayed.

Problem on
M01 LAN Comms

The system will now continuously check all the above inputs for an unsealed condition and, if found, the problem will be displayed. For example, this screen has identified the missing module as M01 (Mini Expander number 1).

No Problems
Detected

If all inputs are sealed, this display will show.

When a problem is detected and displayed, press the Up Arrow or Down Arrow to re-test.

The following keys are used to aid in testing:

Key	Function
Off Key	Turns off all Zone Expander Battery chargers so that they are running on battery power only. This will cause a lower than usual LAN voltage to aid in testing.
ON Key	Turns all Zone Expander battery chargers back on. This key should always be pressed before exiting "Test Power" if the Off Key has been pressed.
"7" Key	Turns off the Control Module battery charger. This will cause a lower than usual LAN voltage to aid in testing.

"9" Key	Turns the Control Module battery charger back on. This key should always be pressed before exiting "Test Power" if the "7" Key has been pressed.
"1" Key	Unlocks all doors by turning on all door lock Auxiliaries. This is useful in testing LAN voltages under worst case conditions.
"3" Key	Re-locks all doors by turning off all door lock Auxiliaries. This key should always be pressed before exiting "Test Power" if the "1" Key has been pressed.
"LEFT" or "RIGHT" Arrow	Re-Test LAN communications with all modules by re-sending input enable commands to all LAN modules.
"UP" or "DOWN" Arrow	Checks for other unsealed inputs.

An example testing procedure is shown here:

1. Enter Power Test and check that there are no problems.
2. Turn Off Zone Expander Chargers and check there are no problems.
3. Turn Off Control Module Charger and check there are no problems.
4. Unlock all doors and check there are no problems.
5. Press the RIGHT Arrow key to re-check communications with all LAN modules under worst case LAN voltages.

In the above condition, a thorough test would involve measuring the following voltages with a voltmeter at all LAN modules:

Measure	Desired Range under worst case conditions
LAN + to LAN -	11.0 to 13.80 volts
"A" to LAN -	-5.0 to +5.0 volts
"B" to LAN -	-5.0 to +5.0 volts

A variation of the above test would be to turn on specific sirens on desired modules before starting the power test. This will further load down the LAN power supplies to give a true worst case condition.

NOTE:

When a charger is turned off, the battery charge voltage drops from 13.75 to 10.0 volts nominally. The Control Module will register low battery at LAN voltages of less than 10.5 to 11.0 volts. The Reader Module will register low volts at LAN voltages of less than 10.5 to 11.0 volts.

Earlier zone expanders register low battery at voltages of less than about 8.7 volts. This means they will not register low battery with the charger off and no battery connected. A volt meter should be used. Later Zone Expanders will register low battery at voltages of less than 10.5 to 11.0 volts.

If a Zone Expander charger is left off, the charger will not turn on again unless the ON key is pressed or the Zone Expander is powered down. **Always push On before leaving Power Test.**

If the Control Module charger is left off, it will automatically turn on again approximately 2 minutes after the low battery condition has been reached. Low battery is only recorded in review after 2 minutes.

Test Volts (Control Module Voltage & Current)

Note: The “Test Volts” Menu is only relevant for Type 2 (CE) Control Module Hardware and Version 4.00 Firmware or later.

This Test Menu option allows the Control Module DC Supply (or Battery Charger) Voltage, DC Current drain, AC Supply status and Battery Voltage to be viewed in real time with the display updated twice every second.

Charger	AC On
13.7 V	0.42 A

The information available on the main “Test Volts” screen is as follows:

Charger
13.7V

Current DC Power Supply Voltage and Battery Charger voltage.
This value also represents the DC Voltage at the “DET+” and “LAN+” terminals.

AC On / AC Off

AC On indicates that the AC supply is present. AC Off indicates that the AC supply is not present.

0.42 A

Indicates the total current being drawn from the DC Power Supply. This includes all on-board circuits, the Battery charge current, Detector +ve and LAN +ve.

Battery
13.2 V

Control Module Battery Voltage.

ON Key

Pressing the ON key when the main screen is being displayed will cause the Battery charger (DC Supply) to be turned off, allowing the Battery Voltage to be viewed.

Any other Key

Pressing any other key will exit this screen and the Battery charger will be turned on again.

CAUTION: Note that if the Battery Voltage screen is entered and there is no Battery connected (or the Battery is in very poor condition), the Control Module will have no DC supply and will therefore be reset.

Time / Date Programming

The following screens allow the system Time and Date to be altered. On some systems the Time and Date may be updated automatically during communications with a Central Station if communicating via IRfast or by a Management PC. Another option is that the panel automatically rings a service provider for the specific purpose of obtaining the accurate Time and Date.

Set Date-Time:
01/12/99-15:19

This screen allows the current Date and Time to be selected in 24 hour format. On pushing the OK Key the seconds will be set to zero.

Set Weekday ->
Wednesday

This screen allows the current day to be selected. Pressing the Right Arrow Key will cycle through all days of the week. The OFF Key will set the day back to "Sunday".

TimeZone Programming

TimeZones are used to qualify other programmed items (such as Groups, Lists, User Types and Telephone Numbers) with time and date. Eg. When a Group or List specifies a TimeZone, all the options in that item are only valid if the associated TimeZone is valid. If the associated TimeZone is invalid then you can optionally select another Group/List to use. TimeZones can be used to turn ON and/or OFF an Area (or Areas) and/or an Auxiliary. They may also be used to Unlock and/or lock a Door (or Doors) and secure and/or unsecure Floors.

There are 4 default TimeZones already programmed and available for use in the system. These TimeZones may cover some of the required programming and also serve as a guide for Installers to study and follow. A table showing the details of the default TimeZones is provided at the end of this section. Take particular notice of the manner in which programming must be conducted to achieve the "NIGHTTIME" TimeZone which crosses midnight.

The procedure to reset TimeZone Programming to the factory default is explained in more detail at the end of this chapter.

TZ001 name: (V)
WEEKDAYS

This screen allows a TimeZone name to be entered. A TimeZone name can be up to 16 characters long.

It is recommended that TimeZone names be programmed to simplify programming of the many other programming options where TimeZones may be allocated.

The 1st screen that is displayed in TimeZone Programming has been enhanced to show the current status of a time-zone for debugging purposes. A (V) suffix indicates the time-zone is currently valid. A (I) suffix indicates the time-zone is currently invalid.

Each TimeZone may be divided into up to four (4) segments or periods. The TimeZone will be considered valid at the times and on the dates which fall between the start and finish of each period of the TimeZone. Times and Dates falling between periods within the same TimeZone are considered invalid for that TimeZone..

TZ001 1st period
00:00- to- 00:00

These screens are repeated 4 times, allowing 1st, 2nd, 3rd and 4th periods to be defined. These screens define the hours and days of the week that a TimeZone will be valid. At all other times and days outside these times the TimeZone will be invalid.

TZ001 SMTWTFSH
1st ->nnnnnnnn

There are 4 separate periods that can be defined with a starting hour and minute in HH:MM format and a finish hour and minute in HH:MM format. A Setting of 00:00-to-00:00 means ignore that period. Spaces instead of digits mean ignore that starting time or ending time in that particular period. (Spaces can only be entered by pressing the OFF Key to enter spaces and then filling in required digits using the arrow and digit keys).

Putting a "Y" under the appropriate day of the week means that the TimeZone will be valid on that day between the specified times.

TimeZone operation can be qualified with holidays. If a “n” appears under the “H” for a period screen, that period will be made invalid if the selected day happens to be a holiday. A “Y” under the “H” letter means the TimeZone is valid on selected days for that time period, even if the day is defined as a holiday. The actual Holiday Date/s and Holiday Type are defined under Holiday Programming [MENU 5,3,1].

TZ001 123456 Holidays YnYnnn

This screen determines what type of holidays this TimeZone will recognise. There are 6 types of holidays. In this example, if a holiday type 1 or holiday type 3 is true, this TimeZone will be considered invalid for the whole of the relevant periods that have a “Y” under the “H” flag.

See “Holiday Programming” for further explanation of Holiday Types.

TZ001 Function -> None

This screen selects which control function (if any) is going to be used.

None	No special control function.
Aux On/Off	Allows control of Auxiliaries OR Auxiliary Lists
Area On/Off	Allows control of an individual Area.
Area List On/Off	Allows control of an Area List
Door Unlock/Lock	Allows control of an individual Door.
Door List Unlock/Lock	Allows control of a Door List.
Lift Car & Floor Unsecure/Secure	Allows an individual Floor to be Unsecured and/or Secured.
Lift Car & Floor List Unsecure/Secure	Allows a Floor List to be Unsecured and/or Secured.
Trigger Time Report	Triggers the Control Module Time Report System Input, which can be used to send a Test Report to a Central Station.
Aux On/Off (seconds)	Allows control of Auxiliaries OR Auxiliary Lists with a timer function from 1 to 255 seconds.
Aux On/Off (minutes)	Allows control of Auxiliaries OR Auxiliary Lists with a timer function from 1 to 255 minutes.
Lift Car List & Floor List Secure/Unsecure	Allows a Lift Car List and a Floor List to be Unsecured and/or Secured. If LC=00 and FL=00 then all Lift Cars and all Floor Lists are selected.
Lift Car List & Floor Secure/Unsecure	Allows a Lift Car List and a Floor to be Unsecured and/or Secured.
Area Defer On	Starts the Deferred Area Timer running for the specified Area. The nominated Area will beep and display a warning at the Terminal when the timer expires and the Area is about to turn on. This gives Users in that Area the opportunity to enter their User Code which, provided they have the appropriate Menu Group permissions, will restart the timer without turning the Area on. If the Area is already on, the Area will be turned off and the Deferred Area timer started. (See “Applications Programming” for further details)

The next screen displayed will depend upon the control option selected.

If one of the Auxiliary control options have been selected, the following screen will be displayed.

**TZ001 Output
Aux: C01:X03**

This screen allows an output Auxiliary to be chosen. The Auxiliary is selected by entering its ID number. To select an Auxiliary List to control, press the ON Key to programme the Auxiliary List control options, and then specify the Auxiliary List to control.

(See "Using Auxiliary Lists" in Auxiliary List Programming [MENU 2,3,6])

If "Auxiliary On/Off (seconds)" or "Auxiliary On/Off (minutes)" has been selected, the following screen will be displayed next.

**TZ001 Output Aux
Time 000 sec/min**

This screen specifies the time period for the timed Auxiliary function in seconds or minutes as specified by the control function selected. A time of 255 sec = random time.

Do not use the timed Auxiliary function if an Auxiliary List is to be controlled. If timing is required, programme one or more Auxiliary Timers. [MENU 5,5]

If "Area On/Off" has been selected, the following screen will be displayed.

**TZ001 Arm Area ->
HOUSE**

This screen specifies which Area will be controlled by this TimeZone. To select an Area, press the Right Arrow Key to scroll through all the available Areas alphabetically. Press the OFF Key to select no Area control. (The ON Key may be used to change modes to allow an Area to be selected by number, if desired).

**TZ001 Area to
Operate: A001**

If "Area List On/Off" has been selected, the following screen will be displayed next.

**TZ001 AList ->
OFFICE AREAS**

This screen specifies the Area List that will be used to determine the Area/s controlled by this TimeZone. To select an Area List press the Right Arrow Key to scroll through all the available Area Lists alphabetically. Press the OFF Key to select no Area List control.

**TZ001 AList
AL001**

The ON Key may be used to change modes to allow an Area List to be selected by number, if desired. To select an Area List by number, enter the Area List number via the DIGIT Keys and the Right and Left Arrow Keys. Press the OFF Key to select no Area List.

If "Door Unlock/Lock" has been selected, the following screen will be displayed next.

**TZ001 Door ->
FRONT DOOR**

This screen specifies which Door will be controlled by this TimeZone. To select a Door press the Right Arrow Key to scroll through all the available Doors alphabetically. Press the OFF Key to select no Door control. (The ON Key may be used to change modes to allow a door to be selected by number, if desired).

**TZ001 Door to
Control: D001**

If “Door List Unlock/Lock” has been selected, the following screen will be displayed next.

**TZ001 DList ->
HOUSE**

This screen specifies the Door List that will be used to determine the Door/s controlled by this TimeZone. To select a Door List press the Right Arrow Key to scroll through all the available Door Lists alphabetically. Press the OFF Key to select no Door List control.

**TZ001 DList
DL001**

The ON Key may be used to change modes to allow a Door List to be selected by number, if desired. To select a Door List by number, enter the Door List number via the DIGIT Keys and the Right and Left Arrow Keys. Press the OFF Key to select no Door List.

If “Floor Unsecure/Secure” or “Floor List Unsecure/Secure” has been selected, the following screen will be displayed.

**TZ001 Lift Car
to use: LC000**

This screen is used to specify which Lift Car will be controlled. The Lift Car is selected by entering its ID number.

**TZ001 Floor to
control: F000**

To select the Floor or Floor List to control, screens similar to the Door and Door List selection screens will be displayed next. A Floor or Floor List is selected in the same manner as would a Door or Door List.

**TZ001 FList to
FL000**

Setting “Lift Car to Use” to “000” will include **all** Lift Cars
Setting “Floor to Use” to “000” will include **all** Floors.

If “Lift Car List & Floor Secured/Unsecured” or “Lift Car List & Floor List Secured/Unsecured” has been selected, the following screen will be displayed.

**TZ001 Lift Car
List: LL000**

This screen is used to specify which Lift Car List will be controlled. The Lift Car List is selected by entering its ID number.

**TZ001 Floor to
control: F000**

To select the Floor or Floor List to control, screens similar to the Door and Door List selection screens will be displayed next. A Floor or Floor List is selected in the same manner as would a Door or Door List.

**TZ001 FList to
FL000**

If “Area Defer On” has been selected, the following screen will be displayed.

**TZ001 Area to
Operate: A001**

This screen is used to specify which Area is to be controlled. The Area is selected by entering its ID number.

TZ001 OFof
Control-> YnnY

This screen selects how the TimeZone is going to control the selected entity or entities.

- NOTES:**
1. If “Trigger Time Report” function is selected only the “(O)N when TimeZone Valid” option is used.
 2. If “Area Defer On” function is selected only the “O” and “o” options are used.

- | | |
|---|---|
| O | Set means turn ON when TimeZone valid. |
| F | Set means turn OFF when TimeZone valid. |
| o | Set means turn on when TimeZone invalid. |
| f | Set means turn off when TimeZone invalid. |

To apply the above logic to Doors and Lifts etc;
ON or on = Secure, Lock or Close
OFF or off = Unsecure, Unlock, Open

TZ001 Qualify QI
Options -> nn

This screen selects whether the TimeZone will be qualified with an Auxiliary. A Qualify Auxiliary operates in a similar fashion to a holiday in that it over-rides the time settings depending on the state of an Auxiliary.

- | | | |
|---|------------------|---|
| Q | Qualify TimeZone | If set, this TimeZone is Qualified with an Auxiliary. When the Auxiliary is Off, the TimeZone will be forced to invalid, even if the times are valid. |
| I | Invert | This option reverses the above option. The TimeZone will be forced to invalid if the Auxiliary is On. |

NOTE:
The Qualify option must be set to “Y” if the Invert option is to be set to “Y”

TZ001 Qualify
Aux: :X

This screen allows the Installer to specify which Auxiliary is to be used to qualify the TimeZone as per the previous screen.

TimeZone Defaulting

Two options are available by which to default TimeZone Programming to factory settings. These are explained below:

TimeZone to (V)
alter: TZ001

At the first TimeZone Programming screen press HELP, “9”.

T.Zone Default ->
Don't Default

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will reset the first four TimeZones as follows:

TZ001	WORKING HOURS
TZ002	WEEKEND HOURS
TZ003	DAYLIGHT
TZ004	NIGHTTIME

In addition, this option will delete all other TimeZones, if present.

Standard

Selecting this option will reset the first four TimeZones as follows:

TZ001	WORKING HOURS
TZ002	WEEKEND HOURS
TZ003	DAYLIGHT
TZ004	NIGHTTIME

This option will make no alterations to any other TimeZones, if present.

Push '9' key to
Confirm Default

The confirmation screen is displayed. Press the “9” Key to confirm your selection.

Default
Done

The default procedure is confirmed.

TimeZone Defaults

NAME		TZ001 WORKING HRS	TZ002 WEEKEND HRS	TZ003 DAYLIGHT	TZ004 NIGHTTIME
1st Period		09:00 to 17:00	09:00 to 13:00	07:00 to 20:00	09:00 to -:-
Days of the week: S				Y	Y
M		Y		Y	Y
T		Y		Y	Y
W		Y		Y	Y
T		Y		Y	Y
F		Y			
S				Y	Y
H		Y	Y	Y	Y
			Y		
2nd period					-:- to 07:00
Days of the week: S					Y
M					Y
T					Y
W					Y
T					Y
F					Y
S					Y
H					
Holiday Types	1	Y	Y	Y	Y
	2				
	3				
	4				
	5				
	6				
Control Function					
Entity to Contol					
Entity List to Control					
On when TZ goes valid					
Off when TZ goes valid					
on when TZ goes invalid					
off when TZ goes invalid					
Qualify Options					
Qualify with Auxiliary					
Invert qualify with Aux.					
Qualify Auxiliary					

Holiday Programming

Holidays are used in conjunction with TimeZones to specify whether a TimeZone will be valid OR invalid on days designated as holidays. There can be 6 Types of holiday allowing certain TimeZones to only recognise certain types of holiday. Three Holidays are pre-defined within the system by default, although these can be altered or removed. **The procedure to reset Holiday Programming to the factory default is explained in more detail at the end of this chapter.**

Holiday to
alter: H001

This screen allows a Holiday to be selected for programming. There can be up to 250 Holidays or Holiday periods in a large system. By pressing the ON key the operator is allowed to search alphabetically for a Holiday name using the digit keys and the up and down arrows.

Find Holiday ^
CHRISTMAS DAY

H001 Name:
CHRISTMAS DAY

An optional name can be assigned to each Holiday up to 16 characters long. It is recommended that Holiday names be programmed to simplify the searching procedure.

H001 Dates:
25/12-to-25/12

This screen allows the starting and finishing day and month to be defined for this holiday period. The year is not recognised. If a Holiday is for one day only, the same day and month must be entered for both start and finish. The screen also allows a span of dates to be specified for this Holiday in order to define a holiday period. Dates may span a new year if desired, for example: 25/12 to 04/01.

H001 123456
Type -> YnYnnn

A Holiday period must be designed to be at least 1 type. In this example the Holiday period is a type 1 and a type 3. Any TimeZone specifying a Holiday of type 1 or type 3 will not be considered valid on any day falling within the period defined on the screen. (Unless “H”oliday is specified as one of the “Days” in the TimeZone).

Holiday types may be utilised to define different types of Holidays that will affect different TimeZones. For example, all public holidays may be made Type 1, school holidays made Type 2 and annual Christmas holiday shutdown made Type 3.

If this were the case, Christmas Day might be designated as Type 1,2 and 3, as it fits all three types. Easter holiday dates would probably be Type 1 and 2.

Holiday Defaulting

Two options are available by which to default Holiday Programming to factory settings. These are explained below:

Holiday to
alter: H001

At the first Holiday Programming screen press HELP, “9”.

Hol. Default ->
Don't Default

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will reset the first three Holidays as follows:

H001	CHRISTMAS DAY
H002	BOXING DAY
H003	NEW YEARS DAY

In addition, this option will delete all other Holidays, if present.

Standard

Selecting this option will reset the first three Holidays as follows:

H001	CHRISTMAS DAY
H002	BOXING DAY
H003	NEW YEARS DAY

This option will make no alterations to any other Holidays, if present.

**Push '9' key to
Confirm Default**

The confirmation screen is displayed. Press the "9" Key to confirm your selection.

**Default
Done**

The default procedure is confirmed.

Diary Programming

Diaries are used to display customised default displays on Terminals at various selectable times. They can also be used to control Auxiliaries, Area and Battery Testing.

DA001 Date-Time
26/07/_ - 09:30

This screen allows a date and time to be specified as to when the Diary will be valid. A blank field means ignore that item. The date and time is specified in DD/MM/YY, HH:MM format. In this example, Diary 001 will become valid for 1 minute between 09:30 and 09:31 on the 26th of July every year. If the HH:MM field is left blank, the Diary message will be displayed for the whole of the day/period specified.

NOTE:

To remove a Diary do not press OFF. This will make the Diary continuously valid. Instead, set the Date and Time to 00/00/88 - 00:00

DA001 SMTWTFS
Days-> YYYYYYY

This screen selects what days of the week the Diary event will be valid. In this example, the Diary event will be valid on any day of the week.

DA001 1st line
Happy Birthday

This screen determines the top line that will be displayed on LCD Terminals programmed to accept Diary messages when this Diary event becomes valid.

IMPORTANT NOTE: The first character must not be left blank. If you don't want the required text to start at the first character, program a symbol such as a full stop or a dash for the first character. (If programming via the LCD Terminal, symbols are selected using the "0" key.)

DA001 2nd line
General Manager

This screen determines the bottom line that will be displayed on LCD Terminals programmed to accept Diary messages when this Diary event becomes valid. If a full stop is placed in the last character position of the 2nd line, the LCD Terminal will emit a short beep at the start of displaying the message.

DA001 Output
Aux: _ :X

Output Auxiliary. This screen allows an output Auxiliary to be chosen which will turn on when the Diary event becomes valid and turn off when the Diary event becomes invalid.

From V3 to V3.5x, this screen (the "Diary Auxiliary") was utilized as an Output Auxiliary OR a Qualify Auxiliary depending on whether or not the "Qualify Aux" Diary Function was selected. (No Qualify function available V2 or earlier)

DA001 Qualify
Aux: _ :X

V4 or later only. When the Time and Date indicate that the Diary should be valid, the Diary will first check that the "Qualify Auxiliary", if programmed in this screen, is On.

-If Time & Date are valid and the Qualify Auxiliary is On, the Diary will be valid.

-If Time & Date are invalid or the Qualify Auxiliary is Off, the Diary will be invalid.

(To provide the Qualify function in V3 to V3.5, select the "Qualify Aux" option in the Diary Functions and program a "Diary Auxiliary" to qualify against. No Qualify function was available V2 or earlier)

DA001 Function-> None

This screen allows the User to select the function of the Diary Message:

Add 1 Hr	When the Diary goes valid, the real Time clock is adjusted by adding 1 Hour. i.e. Start of Daylight Saving. (V2 or later)
Subtract 1 Hr	When the Diary goes valid, the Real Time clock is adjusted by subtracting 1 Hour and the function is changes to "Skip Subtract 1 Hour". i.e. End of Daylight Saving. (V2 or later)
Battery Test	When Diary goes valid, automatic Battery Test cycle begins. <i>See details below.</i> (V3 or later only.)
Skip Subtract 1 Hr	When Diary goes valid, function changes to "Subtract 1 Hour". This option is selected automatically when necessary. (V3 or later only)
Qualify Aux	V4 or later - Not available. Independent "Output" and "Qualify" Auxiliaries were made available in V4 firmware, making this option unnecessary. V3.0 to V3.5x - If set to Yes, then when the Time and Date indicate that the Diary should be valid, the Diary will first check that the Diary Auxiliary programmed earlier is On. If the Time and Date are valid <u>and</u> the Diary Auxiliary is On, the Diary will be valid. If the Time and Date are invalid <u>or</u> the Diary Auxiliary is Off, the Diary will be invalid. (Note: No Output Auxiliary is available when this option is selected) V2 or earlier - No Qualify function was available.

Diary Priorities

Diary Messages have a priority system based upon the Diary number, where Diary number DA001 is the lowest priority and the highest available Diary Message is the highest priority. (The highest available number may be 5, 10 or 32, depending on memory size and configuration).

e.g. **If Diaries 1 and 4 are both valid, Diary 4 will be displayed.**

Dynamic Battery Testing. See "Battery Testing" in the Applications Programming section for full details.

Battery testing is initiated by a Diary event which allows the installer to dictate the frequency dependent on their requirements. The period can also be set from 0 (no test) to 255 minutes for each module to be tested.

Only the Control Module, B Type Expanders, E Type Expanders, Intelligent 4 Door Access Modules and LAN Power Supply Modules are capable of Dynamic Battery testing.

The Battery Test when activated starts with the controller when a Diary with a function of "Battery Test" goes valid. Once completed successfully or due to failure the next module programmed will then start battery testing. Battery testing finishes once all modules set for testing have completed their test.

Battery test times should be set with module load in mind. It should be realised that if a battery test for 4 hours is performed and the AC supply to the building failed shortly after the test was complete, the charge of the battery would be severely effected. This coupled with the age of the battery would greatly reduce the integrity of the system. The battery test does NOT turn off the AC Mains supply to the module being tested, it turns off the Battery charge circuit allowing the module to run off the battery supply only.

As a general rule a battery test time of between 1-10 minutes would be used to determine only that a battery is connected. A time of between 60-120 minutes would deduce that a battery should be in good working order. Periods greater than 120 minutes should only be set for deep discharge testing conditions where the reliability of the AC mains supply can be guaranteed.

Auxiliary Timer Programming

This programming option allows an optional timer to be associated with any/all Auxiliaries in the Concept 3000 system. Whenever the Auxiliary is turned on by any mechanism, the timer will be started. Every time the Auxiliary is turned on again by any mechanism the timer will be restarted. When the timer expires, the Auxiliary will be turned off.

Aux: Time:
E01:X04 000 sec

This screen allows the Installer to select an Auxiliary to programme. Pressing the up/down arrow will go to the last/first Auxiliary.

Aux: Time:
E01:X04 000 sec

This screen is identical to the first except the cursor is positioned to allow the time value to be entered. The time can be any number between 000 and 255 seconds or minutes.

- NOTES:**
1.

Timer Disable.
A time of 000 disables the Auxiliary Timer.
2.

Random Timer.
A time value of 255 will cause the timer to generate a random time between 1 and 255 seconds or minutes depending on the sec/min setting. All other times (2-254) will operate normally.
3.

Timer Accuracy.
The Timer will time to the nearest second if programmed in seconds or to the nearest minute if programmed in minutes. For accurate timing up to 4 minutes & 15 seconds, programme the Timer in seconds.

Aux: Time:
E01:X04 000 sec

This screen is identical to the first except the cursor is positioned to allow the time increment to be chosen. Push the "M" digit key (No. 5) followed by OK to select an increment of minutes and any other digit key followed by OK to select an increment of seconds.

When set to seconds, the actual time may be up to a second less. When set to minutes, the actual time may be up to a minute less. For example, setting a time of 106 minutes will mean the timer will expire between 105 and 106 minutes after starting.

Save to review
for E01:X04 Y

This screen allows the programmer to specify that activity on this Auxiliary will not be saved to review. This may be done if the Auxiliary is going to turn on and off frequently or is used for automation functions that do not need to be logged.

Off on Reset
for E01:X04 Y

This screen allows the programmer to specify that this Auxiliary will be returned to the Off state in the event of a system reset. If set to "n", the state of the Auxiliary will be retained in the event of a system reset.

This option can be used to determine Auxiliary states on a reset, when the General System Option "No Auxiliary Off on Reset" is set to No.

If the General System Option "No Auxiliary Off on Reset" is set to Yes, the setting of this option will be ignored and **all** Auxiliaries will be restored to their current state in the event of a system reset.

SPARE

(Previously reserved for Deadman Menu)

Menu 6 is not currently used.
Provision for future enhancement.

This Menu option was previously reserved for Deadman functions.
These functions can now be implemented via the “Area Defer On” features
available in V3 or later.

See the Applications Programming Section for details.

Input Programming

Input programming enables Zones to be named and Zone options to be selected. Note that System Input names are pre-defined and cannot be renamed.

Input to alter:
C01:Z01

This screen allows the installer to jump to a particular Input to be programmed. Alternatively, the up/down arrow keys may be used to select the last/next Input

C01:Z01 name:
HALLWAY PIR

This screen allows an optional Zone name to be programmed, allowing the first 16 characters of a possible 24 character name to be entered. It is recommended that all Zone Inputs be named for ease of identification, both for the installer and the end user.

C01:Z01 name:
(cont.)

This screen allows the last 8 letters of the Zone name to be entered if required.

C01:Z01 SIXSRANT
Options-> nnnnnnnn

This screen allows certain miscellaneous Zone options to be set.

S Summary

If set to "Y" this zone will be treated as a Summary input and, provided this input is in an Area which is turned on, any non-sealed state will be displayed as a level message.

A Summary Input is the same in all respects to normal inputs, except that the state of the input is constantly monitored whilst it is enabled (in an Area and Area is on) and any non-sealed state will result in a level message being generated indicating a problem. Problems indicated are prioritised in the order; Isolated Inputs, Tampered Inputs and Unsealed Inputs.

NOTE: Any latched alarms will override an Input problem screen

The problems level message will only restore when the offending inputs have been re-sealed.

The actual zone/input problem can be displayed using the panel status information screen, [MENU, 1,5]. This screen shows all summary inputs in a non-sealed condition. Pressing the up/down arrow displays the next problem Zone. When all Zones have been checked, the display will show "Finished check".

I Ignore Physical Zone

If set to "Y" this zone will be processed as a "Calculated Zone" only and the state of the actual physical Zone Input will be ignored. *See Calculated Auxiliaries "Trigger Zone" for more details.*

Note: Certain Comms Tasks allow un-used Zone Inputs to be assigned to indicate communications or interface problems. (Currently: GSM Data, C-Bus and Inovonics)

Any Zone Input assigned to a Comms Task for this purpose should also have this option set to "Y".

X Aux on for Review

If set to "Y" this zone will only be saved to review when Auxiliary C01:X01 is On. If set to "Y", "No (R)evuew" must also be set to "Yes".

S	Swap Seal and Alarm	If set to "Y" the Seal and Alarm conditions will be reversed. This allows the convenient use of normally open devices.
R	No Review	If set to "Y" activity on this input will <u>not</u> be saved to review.
A	Auto-isolate	If set to "Y" Auto-isolate will be allowed on the input if the input is unsealed when an Area to which it is assigned is being turned On.
N	No Test on Exit	If set to "Y" this zone will not be tested on Exit.
T	Zone Self Test	<p>If set to "Y" Zone Self Testing will be performed on this zone.</p> <p>This option must also be set to "Y" if this Zone is to be included in any Walk Testing.</p> <p><i>See "Zone Input Testing" in the Applications Programming section for details.</i></p>

C01:Z01 HOME
Aux: HA000

This screen allows a Home Auxiliary to be assigned to an input. The Home Auxiliary will be controlled by the Input in accordance with the Home Auxiliary control options selected in the Process Group assigned to the input. See Process Group programming [MENU, 2,4,3] for details. Any Home Auxiliary can be allocated to any zone or input. The same Home Auxiliary can be allocated to more than one zone.

Area Programming

Area to
program: A001

Find Area ^
HOUSE

This screen allows an Area to be selected for programming. There can be up to 250 Areas in a large system.

By pressing the mode key (ON-key) the operator is allowed to search alphabetically for Area names using the digit keys and the up and down arrows.

Area 001 Name:
HOUSE

This screen allows an optional Area name to be entered up to 16 characters long. It is recommended that all Areas be named for ease of identification for both the installer and the end user.

A001 IntSir(S1)>
Mode: No Siren

This screen determines how Internal Sirens (S1) will work if required. Pressing the right arrow key cycles through all the choices. Pressing the OFF key selects no Internal Sirens. Note that “S1” in this screen only refers to the Siren output number on the Module, not the Siren numbers used in creating Siren Lists.

Mode:
No Siren
Instant
2nd Hit
Backup

Description

No Siren will sound.
Siren will sound immediately a siren Input is triggered.
Siren will sound after the 2nd hit of a siren Input.
Siren will only sound if a Backup Comms Task is triggered. (V4.5 or later only)

Siren Backup Mode. (V4.5 or later only)
If the “Backup” option is selected, the Sirens for this Area will be triggered on the next Input alarm that is programmed to trigger the Siren, if:
-The Area has already triggered at least one Comms (Xmit) Event.
-The Comms backup level screen has been triggered (“Had Comms Fail”)
To cause the Siren to trigger as soon as the Comms Failure occurs, assign the “Comms Fail” System Input (C01:S21) to the Area using a suitable Process Group. e.g. PG014 “Access Alarm”. (This Process Group triggers Siren but not Comms)

See Comms Task Programming [MENU 7,3,1] for details of how to program a Backup Comms Task.

A001 ExtSir(S2)>
Mode: No Siren

This screen determines how External Sirens (S2) will work if required, and is programmed exactly the same as the Internal Sirens above. Note that “S2” in this screen only refers to the Siren output number on the Module, not the Siren numbers used in creating Siren Lists.

A001 Siren List
SL001

This screen determines what sirens will sound when a siren Input is triggered. A Siren List of 000 specifies no sirens to sound. Siren Lists allow a number of sirens to be included in the list so that a single trigger from an Area can operate a number of sirens. (Refer to “Siren List Programming” for details)

A001 Siren
Time: 000 min

This screen determines the Siren activation time for Sirens allocated to this Area via the Siren List above. The Siren time can be programmed from 0 to 255 minutes. The Siren timer has been designed to be accurate to the nearest second. This is important particularly when times of only a few minutes are chosen. E.g. When a Siren time of 2 minutes is programmed, the Sirens will activate for 2 minutes +/- 1 second. Note that the time is the same for both Internal and External Sirens. See relevant Authorities for maximum Siren Time allowed.
CAUTION: If set to 0, the Siren time will be 255 minutes.

A001 Exit
Delay: 060 sec

This screen determines the exit delay to apply to Inputs which have been flagged as exit Inputs via their Process Groups in this Area. The exit delay is programmable up to 255 seconds, accurate to the nearest second.

Note that if a Zone or System Input is not flagged as an exit Input, then that Input is enabled immediately the Area is turned ON.

A001 Entry
Delay: 030 sec

This screen determines the entry delay to apply to Inputs which have been flagged as entry Inputs via their Process Groups in this Area. The entry delay is programmable up to 255 seconds, accurate to the nearest second.

A001 Pulse
Time: 000 sec

This screen determines the pulse count time to apply to Inputs which have been flagged as pulse Inputs via their Process Groups in this Area. The pulse count time is programmable up to 255 seconds, accurate to the nearest second. To cause an alarm, a pulse count Input must have the required number of pulse counts within the time specified above or still be in alarm at the end of the set pulse time, regardless of the number of hits.

A001 Max. Pulse
Count: 00

This screen determines the number of pulse counts required within the pulse count time above to cause an alarm. This applies to Inputs which have been flagged as pulse Inputs via their Process Groups in this Area, and is programmable from 1 to 15 counts.

A001 OCAN2S
Comms: nnnnnn

Reporting Options.

This screen allows open/close reporting options to be programmed:

- | | | |
|---|--------------------------|---|
| O | Report <u>O</u> penings | Causes Area Openings to be reported even if no alarms have been received. (This reporting option is dependent upon CommsTask filters [MENU 7,3,1]) |
| C | Report <u>C</u> losings | Causes Area Closing's to be reported even if no alarms have been received. (This reporting option is dependent upon CommsTask filters [MENU 7,3,1]) |
| A | Open after <u>A</u> larm | Selecting this option will cause opening reports for this Area only if an Alarm has been reported in this Area since the Area was last turned on. The "O" flag must also be set. |
| N | Not General Area | <p>Selecting this option will cause this Area to be ignored as part of a general Area calculation for any Comms Task that is reporting General Open/Closes. (i.e. Open/Close will not be reported on this Area in a Comms Task programmed for "General Open/Close reporting")</p> <p>Open/Close can still be reported on this Area by programming another Comms Task with General Open/Close reporting set to NO. Assign an Area List Filter to this Comms Task, to specify which Area/s are to trigger individual Area Open and Close reports. (This is only possible in Dialer formats, or with two communications formats that can be active at the same time. e.g. Direct Line & Securitel, Dialer & Securitel)</p> |
| 2 | 24 Hour Off report.* | <p>Selecting this option will cause a report to be sent to the Central Station whenever the 24 Hour part of the Area is turned OFF. This is useful to inform the Central Station that no more 24 Hour (Tamper) processing will take place in the specified Area.</p> <p>Note that if the 24 hour part of the Area is turned back on then no report is sent. (The Central Station can interpret the next Area closing as the 24 hour part being re-enabled as 24 hour is automatically re-enabled when an Area is turned on.</p> |

S Area Still Open *

Selecting this option will cause a report to be sent to the Central Station if this Area is OFF and any other Area is turned ON. The "Area Still Open" report is used to warn Central Stations that an Area that should normally be on all the time such as a system Area is turned off.

* Not all reporting formats can handle "Area Still Open" and Area "24 hour off" reports. For this reason an option has been added in Comms Task Report Options to disable these types of reports for any Comms Task if required. (*Refer to "Comms Task Programming" for details*)

A001 Client
Code: 0000

This option selects the client code that will be used for reporting all alarms, opens and closes from this Area.

This option will only need to be used if it is necessary to report separate client codes for different Areas. e.g. A single system installed in a shopping centre or an office block, may be programmed to report different tenancies on separate client codes. (If this client code is set to 0000 then the CommsTask client code will be used for whatever Comms Task is being used)

A001 THDNPW.F
Opts -> nnnnnnnn

Miscellaneous Options.

This option selects miscellaneous options for this Area:

Test for Users.

Selecting this option will cause the Area to be tested for the presence of any Users when the Area is armed from an LCD Terminal. Only select this option in an access control situation where entry and exit from the Area is via PIN code or Card so that the tracking of Users is possible.

If there are Users recorded as being in the Area, the Area will not Arm and the LCD Terminal screen will display "<User name> in Area". The Down Arrow key can be used to scroll through the list of all Users currently in the Area.

Holdup Area.

Selecting this option will cause the Pulse count processing to be altered for this Area. When the Pulse time expires, or the Pulse count is met, all zones that have had a pulse, will be processed. This option allows any zone to be allocated for use as a hold-up button with special area processing. (V2 or later only)
See the Applications Programming section for more details.

Defer Area.

If set to Yes, then this Area can be turned off for a specific time period and also be deferred from turning on again by an appropriate User logging on during the off time period (Defer Time) for this Area. (V2 or later only)
See the Applications Programming section for more details.

No Siren cancel.

This option, if set to Yes, will not allow sirens to be reset on a valid PIN entry. This is useful when lighting is run off the Siren output in Home Automation applications. (V3 or later only)

Pulse Timer processing.

If set to YES, then when the Pulse timer expires and the Pulse count equals 1, the Zone Input will be alarmed. If the Pulse count is less than or greater than 1, the Pulse timer will be re-started and the pulse count set to 1.
Primarily Implemented for simple DOTL alarms on normal Zone Inputs using one Zone per Area. (V3 or later only)

Important Note: If (P)ulse Timer processing set to YES, (H)oldup flag must be set to NO.

Warn Auxiliary (Alm4)

If set to Yes, and the Area is defined as a “(D)efer Area, the “Alarm 4 Auxiliary” will turn On when the “Area about to turn on” message is displayed on LCD Terminals, 250 seconds before the Area Defer Timer expires. (The Defer timer Warning period)

The Auxiliary will turn Off when: -The Area re-arms. (Turns On)
-The Area is turned Off again.

(Deferred Off by a “Defer” User, or fully Off by a normal User.)

This provides for an Auxiliary output to activate a warning device to indicate that the Area is about to turn on, in addition to the LCD Terminal beeper/s. (V4 or later only)

Function Zone Area.

V4 or later only. Selecting this option defines this Area as a Function Zone Area. If set to Yes, when a Zone Input assigned to the Area changes state, the Area will check whether the Zone is used in a Function Zone and then process the Zone accordingly. *See Function Zone Programming. MENU, 7, 5, 3.*

**A001 Self Test
“ON” count 000**

This option selects the number of times this Area must be switched ON before a Zone self test is performed. (See section on Zone Self Test for more details)

This Zone Self Testing feature operates independently of Pre-arm Walk Testing. In some cases settings of one test feature will conflict with the settings of the other test feature. Therefore, if zone testing is to be implemented in a particular Area, it is recommended that the Area be programmed to use either one test method or the other, not both.

Note: If Pre-arm Walk Testing is to be implemented in this Area, “Self Test ON Count” must be set to “000”.

Area Auxiliaries.

Area Auxiliaries can be programmed so that various types of events that occur in this Area will activate specified Auxiliaries. The Auxiliary may be used to provide an output to activate a warning sounder, lamp or other device; or it may be utilised as a “phantom” Auxiliary in programming to provide other functions in the system.

The Pulsing Beeper in an Elite LCD Terminal can be switched on by activating Auxiliary 4 on that Terminal. e.g. T01:X04 on Terminal 1, T02:X04 on Terminal 2, etc. (Pulse Beeper Configuration must be enabled - Refer to LCD Terminal Programming or Elite Terminal Installation Guide).

If the Auxiliary is not being controlled by a function which has an inherent timer such as Entry delay or Exit delay, an Auxiliary Timer should be programmed for that Auxiliary, with a time period in seconds, to ensure that the Beeper turns off again. (*See “Auxiliary Timers” MENU, 5, 5 for details*)

Programming these auxiliaries on a “per Area” basis, allows for Auxiliaries to be unique to an individual Area whenever necessary. To provide Auxiliaries that will indicate a certain condition (or conditions) for multiple Areas, the same Auxiliary number is simply allocated to the condition/s required in each of the Areas.

**A001 Exit Aux
E02:X01**

This screen allows an optional exit Auxiliary to be programmed for this Area if desired. Following screens allow other Auxiliaries to be programmed in the same manner and are summarised in the following table:

Area Auxiliary Actions.

Auxiliary	Turns On when	Turns Off when
Exit Aux ^	Area Exit delay begins	Timer expires/Area turned off
Entry Aux ^	Area Entry delay begins OR When Area is designated a "Hold-up" Area, turns on when the first pulse on any pulse count zone is detected (Pre-alarm Auxiliary Action)	Timer expires/Area turned off OR When Area is designated a "Hold-up" Area, turns off when pulse count conditions are met or Pulse Timer expires or Hold-up is cancelled by a User Code.
Siren Aux * ^	Area Siren turns on. V1 Firmware: The Siren Aux will not operate unless a Siren List is assigned to the Area. V2 or later: Siren list is not necessary.	Siren timer expires/Area off
Close Aux ^	Area turned on	Area turns off
24 Hr Aux *	Tamper occurs in Area with "T" flag set	Area turns off
Alarm1 Aux * ^	Alarm occurs in Area with "A1" flag set	Area turns off
Alarm2 Aux * ^	Alarm occurs in Area with "A2" flag set	Area turns off OR All Inputs in the Area that are assigned a Process Group that triggers the Auxiliary are in the sealed state. (Non-latching Auxiliary Action - V3 or later only)
Alarm3 Aux * ^	Alarm occurs in Area with "A3" flag set	Area turns off
Alarm4 Aux * ^	Alarm occurs in Area with "A4" flag set OR The "Area about to turn on" message is displayed on LCD Terminals, 250 seconds before the Area Defer Timer expires. (If the "(D)efer Area" and "(W)arn Aux" options are both set to Yes)	Area turns off OR Area Defer timer is re-started
Isolate Aux *	Input isolated in this Area with "T" flag set	Area turns off OR All Inputs in the Area that are assigned a Process Group that triggers the Auxiliary are in the De-isolated state. (Non-latching Auxiliary Action)
Count Aux	Turns On and/or Off as per the following Count Control screen	Turns On and/or Off as per the following Count Control screen
Test Aux	Area Pre-arm Test begins	Test ends or Aux Timer expires (if programmed)

* The Siren, 24Hr (Tamper), Alarm 1, 2, 3 & 4, and Isolate Auxiliaries, will only be activated when an Input/Zone in this Area is in the condition specified AND the Process Group allocated to that Input/Zone in this Area enables the particular Auxiliary.

^ The following Auxiliaries allow an option to assign an Auxiliary List if required.

V3 or later: Siren, Close and Alarm 1 to 4.

V4 or later: Exit and Entry added.

Auxiliary Timers.

Note that any Auxiliary may be turned off by an Auxiliary timer if programmed, no matter how that Auxiliary was turned on. i.e. An Auxiliary turned On by an alarm in Area 1, that is also effected by an Auxiliary timer, will turn Off when the Auxiliary timer expires, even if the alarm remains unacknowledged (Area still ON).

Auxiliary List Assignment. (V3 or later only)

The following Area Auxiliaries can optionally have an Auxiliary List assigned. See "Using Auxiliary Lists" in Auxiliary List Programming. [MENU 2,3,6].

- Exit Auxiliary. (V4 or later only)
- Entry Auxiliary. (V4 or later only)
- Siren Auxiliary.
- Alarm1-4 Auxiliaries.
- Close Auxiliary.

**A001 Sub Area ->
None**

This option allows a sub-Area to be defined.

A sub-Area will turn ON when all Areas specifying that sub-Area are turned on. A sub-Area will turn OFF when any Area specifying that sub-Area is turned off. Press the OFF key if you wish to specify no sub-Areas.

**A001 Sub Area ->
A008**

NOTE: The ON key may be used to change modes to allow an Area to be selected by number if you wish.

Note that any Area defined as a Sub-Area can still be turned On and Off independently of the status of the other Areas linked to it via Sub-Area programming. i.e. By Users with the Sub-Area in their Area List, or by automated operations such as TimeZones, Function Zones and Calculated Auxiliaries, etc.

e.g. A common Reception Area is the Sub-Area of the Admin and Laboratory Areas. This causes the Reception Area to automatically turn Off whenever Admin and/or Laboratory are turned Off and turn back On again when both are turned On.

However, a trusted Courier may be assigned a PIN Code with only the Reception Area in the Area List. This allows the Courier to turn the Reception Area Off and back On again for after hours pick-ups without the Admin or Lab Areas needing to be turned Off.

**A001 Number of
Users: 00000**

This option allows the Installer to view the number of Users currently in the specified Area. The number may also be edited or reset manually in order to accommodate any changes that have been made to Area Programming.

This feature requires Card or PIN access IN and OUT out through an Access Controlled Door. See "User Counting in Areas" in the Applications Programming section for further details.

Note: As the Installer Code is the only code with access to the Area database, only the Installer Code has access to this screen.

**A001 Count OFof
Control: -> nnnn**

This option allows the Installer to control the operation of the "Count Aux". See "User Counting in Areas" in the Applications Programming section for further details.

ON when Trigger Count met
OFF when Trigger Count met
on when Trigger Count +1 met
off when Trigger Count +1 met

Set the required option flags to "Y" in order to control the Count Auxiliary.

A001 Trigger
Count: 00000

This number may be set by the Installer to determine the number of users required to start the User Count Control feature. See “User Counting in Areas” in the Applications Programming section for further details.

Test Options

A001 ..FQXAW
TOpts-> nnnnnnnn

This screen allows the Installer to set a number of Area Test Options. See “Zone Input Testing” in Applications Programming for more details.

- | | | |
|---|-------------------|--|
| . | Spare | Not Used |
| . | Spare | Not Used |
| F | Force test | Forces all zones to be tested, even if a seal to alarm transition has occurred since last tested. |
| Q | Qualify for Exit. | Test is not allowed to finish unless the Qualify Auxiliary (defined as the Area Test Auxiliary earlier in Area Programming) is Off. |
| X | Test Aux | Turns On the Area Test Auxiliary at the start of the second phase of testing, and turns off at end of test. (Unless turned Off by another mechanism such as an Auxiliary timer beforehand) |
| A | Arm for Test. | Arm all zones at start of second phase of test. |
| W | Walktest on Arm. | Enable Walktest option. If this option is set to No, then only unsealed zone testing is performed. If set to Yes full Walktesting is performed. |
| E | Exit to Counters | At end of test, automatically exits to the “Display Counters” screen. |

NOTE: The “Q” and “X” flags should never be set to Yes at the same time or the test can never finish, unless the Test Auxiliary is turned off by another mechanism, such as an Auxiliary Timer, etc.

A001 Max Test
Count 000

This option sets the Maximum time for the test. The value entered is the number of 5 second periods that the test will run for. e.g. A setting of 60 will therefore result in a maximum test time of approximately 5 minutes. (60 X 5 = 300 seconds)
A valid test time must be entered if Area Testing is to be used. Area Testing will not function if Max. Test Count is set to “0”.

Area Defer Timer.

A001 Defer
Time: 000 min

Set this time to determine when the Area is automatically turned back On after having been previously deferred Off. For this feature to become active, both Area Option “D” and Option “D” in the User’s Menu Group must be set.

If the Area has been defined as a Defer Area and no value is entered here, the value entered for “Area Defer time” in the General System options (MENU 7, 5, 1) will be used.

Assigning an Input to an Area

To assign an Input to an Area, it must be given a Process Group. The Process Group determines how the Input will be processed in this particular Area. If no Process Group is allocated to an Input, that Input is not regarded as being in the Area at all.

The system has 12 pre-programmed Process Groups already available that are designed to cover many of your applications. Many more Process Groups may be created by the installer to cater for individual system requirements when necessary. (See "Process Group Programming" for more information and details of the pre-programmed groups)

Note that the same Input may be assigned to up to eight (8) Areas, and may be allocated a different Process Group in each of the Areas to which it is assigned.

For example, a Fire Door Zone is allocated the "Access Local" Process Group in an Area that is always turned ON so that a local alarm is raised whenever the Door is opened. The same Zone is allocated the "Burglary" Process Group in another Area that is only turned ON when the premises are unoccupied. If the Door is opened when this Area is ON it will generate an alarm that will be reported to the Central Station.

These screens pertain to placing an Input in an Area. There are three methods of placing Inputs in Areas selected by pushing the ON key. The "ON" key selects name entry mode or number entry mode for the Process Group.

Method 1

C01:Z01, A001 ->
BURGLARY

In method 1 the OFF key is used to remove the Input from the Area. The right arrow key is used to toggle through all the Process Groups in alphabetical order. Selecting a Process Group for an Input in Area is the same as placing the Input in that Area, with the alarm actions determined by that Process Group.

Method 2

C01:Z01 in A001
BURGLARY

Using method 2 the operator can jump straight to the desired Input by typing in the Input abbreviation directly. The Process Group cannot be changed in this mode.

Method 3

HALLWAY PIR ->
BURGLARY

Method 3 is identical to Method 1 except the Input description is shown on the top line to aid in identifying Inputs, particularly System Inputs.

NOTE: Any Input can only be assigned to a maximum of 8 Areas.

In all screens, pressing the OK key will advance to the next Input, and pressing the left arrow key will go back to the last Input.

Assigning System Inputs to an Area

System Inputs may be allocated to an Area by either using one of the above methods or an option under the Area defaulting procedure described below.

Please read the additional "Important Notes" on System Inputs at the end of this chapter.

Area Defaulting

Area defaulting allows the programmer to quickly and easily perform a number of the more repetitive and predictable tasks normally associated with Area programming. They include:

- Removing all Zones and Auxiliaries from an Area and resetting programmable times to factory defaults.
- Removing all Zones and System Inputs from an Area.
- Automatically adding all System Inputs on all modules present to an Area and assigning standard Process Groups to those inputs.

Access to Area defaulting is available from the first Area Programming screen.

Area to
alter: A001

This first Area Programming screen determines the Area upon which the defaulting action is to be performed. Use the UP and DOWN Arrow Keys to select the desired Area then press HELP, “9”.

Area Default ->
Don't Default

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Selecting this option will abort the procedure.

Selecting this option will programme all standard times as well as remove all Auxiliaries and Zones from the selected Area.

Don't Default

Selecting this option will Remove all Zones from the selected Area.

Standard

Selecting this option will allow System Inputs to be added to the Area automatically and be assigned certain standard Process Groups. Refer to the table below for further details on Standard System Inputs and their Process Groups.

Select TSLIias
Inputs-> nnnnnnn

If the “Add System Inputs” option is selected, this additional screen appears. This screen allows the programmer to select the types of System Inputs to be added to the Area with specific pre-defined Process Groups. The upper case letters represent different types of System Alarms, whilst the lower case letters represent different types of Access Control Alarms.

These option flags relate directly to Process Group numbers and are explained in more detail in the table below.

Default System Inputs

Option	Type of Input Added to Area	Process Group Assigned	Example of Input
T	SYSTEM TAMPER	PG009	Cabinet Tamper
S	SYSTEM SILENT	PG010	AC Fail, Low Battery
L	SYSTEM LAN	PG011	LAN Fails
I	SYSTEM LOCAL	PG012	UART Problems
i	ACCESS LOCAL	PG013	Too many tries (Card or PIN)
a	ACCESS ALARM	PG014	Door Forced
s	ACCESS SILENT	PG015	Door Held Open

**Push '9' key to
Confirm Default**

When the confirmation screen is displayed, press the "9" Key to confirm your selection.

**Default
Done**

The default procedure is confirmed.

Important Notes - System Inputs:

1. Only System Inputs that are present at the time of default will be included.
ie. System inputs from modules currently enrolled on the LAN.
2. If Process Groups are defaulted to standard then the names of the Process Groups will be relevant to the above operation.
3. Any changes made to a Process Group will affect all inputs within the system that have that Process Group assigned to them. It is recommended that Default Process Groups (especially groups PG090 to PG015) NOT be changed until the implications on all relevant inputs are examined.
4. See "System Inputs" in the "Tables" section for details of:
-The Process Groups assigned for each System Input via the "Add System Inputs" default function.
-The default Contact ID Event Codes assigned for each System Input.
5. All System Inputs, when activated, generate an Alarm state and a Tamper state allowing them to be processed as either an Alarm and/or Tamper condition depending on the Input Type options selected in the Process Group. For this reason, changes in state on System Inputs will continue to be saved to Review, (and in some cases processed as Tamper alarms) even if all the Areas relevant to those Inputs are turned Off, because the 24 Hr (Tamper) part of the Area is still On.

To disable the Review logging (and processing if relevant) of System Inputs, the 24Hr (Tamper) part of the Area must also be turned Off.

To turn the 24Hr part of an Area Off, Logon to the LCD Terminal, select the Area to control then Press the <LEFT Arrow> key. The current status of the 24Hr part of the Area will be displayed. Press <OFF>.

The 24Hr (Tamper) part of the Area can be turned On again in the same manner by using the <ON> key. Alternatively, the 24Hr monitoring will automatically be turned back on when the Area is turned On.

Force Arming an Area:

Normally, when a User attempts to turn an Area On from an LCD Terminal and there are one or more Zone Inputs in that Area that are not in the Sealed state, a "Zone Problem ..." message will be displayed on the Terminal. The User is then required to try and rectify the problem or Isolate the Zone Input/s before the Area can be turned On.

When commissioning and/or testing a system it is often useful for the Installer to be able to turn On an Area regardless of Zone Input states in order to enable the Zone Inputs and monitor activity in Review.

A special feature only available to the Installer Code allows the <1> key to be used, when the "Zone Problem ..." message is displayed, to un-conditionally skip the rest of the Zone Test and turn On the Area regardless of any un-sealed Zone Inputs.

LCD Terminal Programming

Commissioning an LCD Terminal.

1. When installation is complete & checked, power-up the module.

2. The display may show a normal Diary, Area status, or Alarm message,etc.
e.g. **Happy New Year**
This means that the default Terminal number (*Set to 99 at the factory*) has been accepted. To change the Terminal no. &/or configure the “LED 4” and “Pulse Beeper” options, **go to step 3.**

Alternatively, one of the messages opposite may be displayed if:
-There is already an LCD Terminal with the same address number.
-The module number is too high for the memory size / configuration.
If this is the case, go straight to step 4.

3. Enable Terminal configuration mode. Hold down the <HELP> key; Short LK2 (RESET); Wait 2 seconds; then release the <HELP> key.
OR
Remove power from the Terminal and hold down the <HELP> key while power is re-applied.

4. **Terminal Number.** Select an LCD Terminal number that isn't already used in the system, then set the module number by entering the required number on the keypad, followed by <OK> to save.

5. **LED 4 Control.** To control LED 4 via an auxiliary (T?:X02), Use Right Arrow key to select “**Aux2**”, then press <OK>. Auxiliary control of LEDs 1 to 3 is already available. *See table under “LED Mode” options.*

6. **Pulse Beep Option.** To enable pulsing beeper whenever Auxiliary 4 (T?:X04) is ON, use Right Arrow key to select “**Aux4**”, then press <OK>. DO NOT connect any Input or Output device to Zone 2/Aux 4 if this option is selected. *See “LCD Terminal Beeper activation” at the end of this chapter for more information.*

7. Use the Left Arrow key at any time to scroll back through the questions. Press the <END> key when finished. Other LCD Terminal options are set in “LCD Terminal Programming”, <MENU>, 7, 2, 1.

Module Exists.
Module Too Big.

Module Number
Change No: 99

LED 4 >
Off

Pulse Beep >
Off

LCD Terminal to
Alter: T01

T01 Present-002
but not secure

Programming an LCD Terminal.

This screen allows an LCD Terminal to be selected for programming. Pressing the “ON” key to change modes tells the Installer whether this module is currently in the network. If the module is not in the network it will display the word “Absent” following the Terminal number. If the module is present, the Terminal number is followed by the words “Present-*nnn* but not secure”, or “Present-*nnn* and secure”, depending on LAN security status. The number (*nnn*) in the message indicates the number of times the module has failed to acknowledge a poll from the Control Module since the last LAN Initialisation or LAN Secure operation.

See “The LAN system” in the Overview and Introduction section and “Secure LAN” (MENU, 7, 8, 1) for details of LAN Security.

T01 Poll
Time: 060 sec

This screen allows the Installer to specify the maximum time a module can remain out of communication with the Control Module. Only modules in unprotected Areas should be selected with short times. Modules in protected Areas can have times set up to 255 seconds maximum. If too many modules are programmed for short times then this may slow down LAN communications.

Note: Poll Time should not be set to 000.

T01 LAN
Priority: 0

Pressing the ON key allows the LAN Priority to be programmed between 0 and 3 for this module. LAN Priority can be used to give certain modules priority over other modules when sending information to the Control Module. Priority 0 is the highest priority and priority 3 is the lowest. For example, if a module was programmed for priority 0 and another module was programmed for priority 1 and both modules were sending information at *exactly the same time*, then the module with priority 0 would be sent first.

When programming small systems the priority of all modules are most commonly set to 0. In larger systems with many Terminals and Zone Expanders, Zone Expanders may be set to Priority 1 and Terminals may be set to priority 0, giving Terminals a faster response than Expanders during heavy LAN traffic.

T01 12345678
Alarms: Ynnnnnnn

Alarm Message Types. This option sets which alarm message types will be displayed on this Terminal. Every Input alarm can create an alarm message. The alarm message type is determined by the Process Group assigned to the Input. This allows certain alarm message types to only be displayed on certain Terminals.

eg. Only alarms on Inputs that specify Message type 1 in their Process Group will be displayed on this Terminal.

See "Process Group Programming" for more details on the use of Message Types.

T01 SMDLIA.O
Msgs: nYYnnYnn

This option sets the default message display on this Terminal when the Terminal is "logged off". Listed below are the various options.

S Single Area

Only display the status of a Single Area defined below as the Associated Area.

M Multiple Area

Display a Multiple Area status screen, starting at the Associated Area, defined below.
 e.g.

Areas: 12345678
001 -> YYnnnnnY

n = Area Off Y = Area On
 T = Area Timed On W = Area Defer On Warning

D Diary Messages

Display Diary messages if defined. Note that if Diary messages are defined with no date and time specified (always valid), the Multiple Area status screen (Area Array), if selected, will not be displayed as the Diary message takes priority.
See "Logoff Terminal Messages" at the end of this chapter for further details.

L	Level Messages	Show system status Level messages at this Terminal. <i>See “Level Messages” and “Logoff Terminal Messages” at the end of this chapter for further details.</i>
I	Single Area Alarms	Show only alarm messages from the associated Area defined below.
A	All Area Alarms	Show alarms from ALL Areas. If set to “n”, only alarm from the Associated Area below will be displayed at this Terminal.
N	No Code Status (V2 or earlier only)	A new “Logged Off Options” screen was added in V3 making this option redundant. See the “A” & “T” options in the “Log Opt’s” screen. V2 or earlier: Allows any User to use the Up/Down Arrow keys to display all possible Area Arrays so that the status of all Areas in the system can be inspected easily. The User does not have to logon to the Terminal first.
O	One Diary Message	Only show One Custom Diary message that matches the associated Area number. Eg. If the associated Area is A003, then the Diary message displayed will be Diary number DA003. NOTES: <ol style="list-style-type: none">1. The “(D)iary Messages” option in this screen must also be Enabled.2. The Custom Diary message will only be displayed if it is Valid.3. If a higher priority (i.e. higher number) Diary message is Valid, the Custom Diary message will not be displayed. (The Terminal will revert to the Area status or “System Ready” display.) <i>See “Logoff Terminal Messages” at the end of this chapter for further details.</i>

T01 LED Mode None	This screen allows the Installer to determine the functionality of the LEDs on the Elite LCD Terminal. (V2 or later) (Note: Display reads “T01 Lamp Mode” in Firmware Versions prior to V4)
None	LEDs will only be controlled via the Terminal Auxiliary assigned to them. LED 1: Txx:X06 LED 2: Txx:X07 LED 3: Txx:X08 LED 4: Txx:X02 (If enabled in LCD Terminal commissioning. <i>See page 1</i>)
Area Array	LEDs will display the status of four sequential Areas beginning with the Associated Area.

T01 Assoc. Area-> House	This screen allows an Associated Area to be selected for this LCD Terminal for use with the other options above. Pressing the right arrow key will cycle through all Areas alphabetically. Pressing a letter jumps to that Area (if defined) and pushing the OFF key sets the Associated Area to None.
---	--

T01 Keypad Time: 030 sec	<p>This screen allows the Installer to programme the keypad “Dual Code” time. Set the maximum time between dual entry codes at this Terminal. When a dual PIN provider code is entered, a subsequent PIN code must be entered within this time for it to be recognised.</p> <p>The Default “Keypad Time” is 30 Seconds.</p> <p>The “Dual User” function is enabled for specific types of Doors in the Entry Options and/or Exit Options in Access Group programming.</p> <p>User Type programming allows different types of Users to be assigned the “Dual Provider” and/or “Dual User Over-ride” options.</p>
---	--

T01 Door D000

This screen allows an associated Door to be selected for this LCD Terminal. Setting D000 means there is no Door associated with this Terminal. When a Door is associated with the Terminal then access options at this Terminal will control and monitor the nominated Door.

When a Door is associated with an LCD Terminal, the System Inputs; “Door Forced” (T?:S03) and “Door Open Too Long” (T?:S04) may be used.

Door Forced will occur if Zone 1 on the Terminal is unsealed and Auxiliary 1 on the Terminal is off, providing the Door is not still open after a valid unlock.

Door Open Too Long (Door Held) will occur if Zone 1 remains unsealed longer than the Maximum Open Time following a valid unlock.

NOTE: In either case, the Door contact must be wired to Zone 1 (Txx:Z01) on the Terminal (no End-Of-Line resistors necessary) and Auxiliary 1 on the Terminal must be programmed as the Lock Auxiliary (Txx:X01).

T01 Access IOA.ZS options-> nnnnnn

This screen allows the Installer to programme a number of access options applicable to the use of this LCD Terminal.

- | | | |
|---|----------------------|---|
| I | Terminal Inside | Set this option to “Y” if the Terminal is located on the Inside of the Door or to “n” if the Terminal is located on the outside of the Door. |
| O | OK key REX/REN | Set this option to “Y” if you wish the OK key to be used as a REX or REN button when the Terminal is logged off. |
| A | Access Control Only | Set this option to “Y” if the Terminal is to be used for Access Control functions ONLY. When this option is enabled, the Terminal can be used to unlock doors but cannot be used for Area ON/OFF control or Menu Access. |
| Caution: Do not set this option to “Y” on any Terminal that you intend to use for programming. | | |
| . | Spare | This option has been left spare for future development. Set to “n”. |
| Z | Zone 2 REX on inside | Set this option to “Y” if you wish Zone 2 on the Terminal to be used as a REX button on the inside (opposite side) of the door. (Zone 2 REX on inside must also be set to Yes in Extra Options to enable Zone 2). Available on Elite LCD Terminals only. (V2 or later) |
| S | Single Area | Set this option to “Y” for Single Area operation. When set to YES this Terminal will only allow operations to be performed on the Associated Area. Status of other Areas can still be viewed. (V2 or later)
Also disables access to Area List selection. (V4 or later) |

**T01 Extra .LNZ
options nnnn**

This screen allows the Installer to programme a number of extra options.

- | | | |
|----------|-------------------------|---|
| L | Limited Messages | This option forces the terminal to only accept broadcasts of level message 6 and diary broadcasts for diary number 1. This option should be used with all other logoff display options set to No. (V3 or later) |
| N | No Key Beep | Set this option to "Y" if you wish to disable the beeper from sounding whenever a key is pressed. Beeper will still operate normally for other functions. (V2 or later) |
| Z | Zone 2 is REX | Set this option to "Y" if you wish Zone 2 on the Terminal to be used as a REX button (If Terminal on "Inside" of Door) or REX button (If Terminal on "Outside" of Door). (V2 or later)
<i>The button is wired in Normally Closed configuration with no End-of-line resistors required.</i> |

This feature is available on Elite LCD Terminal only.

**T01 Log ATLRHC..
Opts -> nnnnnnnn**

This screen allows the Installer to programme operations that are allowed whilst the Terminal is logged off. (V3 or later only)

- | | | |
|----------|---------------------------|--|
| A | Area Array | This option allows the up/down arrow to display the status of all Areas as Area array screens. (This is over-ridden if latched alarms are present and allowed). |
| T | Text | This option allows the up/down arrow keys to display the status of 8 Areas as text, beginning at the associated Area for this Terminal.
The "A" option above must be set to No. |
| L | Latch Alarms | This option allows the up/down arrow keys to display all alarms currently latched.
<i>See Input Types in Process Group Programming [MENU 2,4,3]</i> |
| R | Quick Alarm Review | This option allows access to quick review via the MENU, 1 keys whilst logged off. This allows any User to view the latest alarm and search Review for past alarms using the Up and Down Arrow Keys. Only alarms are displayed. |
| H | Home Auxiliary | This option allows access to home auxiliary control via the right arrow key. |
| C | Air Conditioning | This option allows access to air conditioning control via the left arrow key. |

**T01 M.Group ->
None**

This option allows a Menu Group to be associated with this Terminal. If the Menu Group is left at None (MG000), then Menu options will be controlled entirely by the Menu Group allocated to the User Type using the Terminal. If the Menu Group allocated to the Terminal is non-zero, then Menu Group options will only be allowed if options are set to "Y" in both the Menu Group allocated to the User Type AND the Menu Group allocated to the Terminal.

**T01 Menu
Group: MG002**

For example, if the MG001 was allocated to User Type "FACTORY WORKER" and was allowed review access and MG002 was allocated to LCD Terminal 6 which denied review access, then any User assigned as a "FACTORY WORKER" could not use review at Terminal 6.

T01 Area Filter > None

This screen allows the Installer to specify an Area List Filter. Any Area controlled from this Terminal must also be in this Area List. (V3 or later)

Press the Right Arrow Key to scroll through the available options alphabetically or press the ON Key to select the Area List by number.

Terminal Lockout.

Normal operation. The Terminal Lockout function will be activated if 5 sequential illegal PIN code entries are attempted at the same LCD Terminal over any period of time. Five attempts is the factory default setting which can be altered by the installer to any number of attempts between 00 (no lockout) and 15.

(Note that prior to V4 this was 6 attempts and could not be edited)

Too Many Tries Wait 60 seconds

When Terminal Lockout is activated, the Terminal keypad will be locked out for 60 seconds and the LCD will display the message shown opposite.

In addition to the LCD Terminal message:

-A "Module Lockout" entry will be logged into Review.

e.g. Jun07 07:23:42.7 Module Lockout: LCD Term. #003

-System Input Txx:S07 "Too many tries" will go into alarm.

The System Input, S07, will reset when the next valid PIN code is entered.

T01 Enhanced Lockout? n

This screen, when set to Yes, enables Enhanced Terminal Lockout. (V4 or later)

Enhanced Lockout provides two additional lockout features using the status of the LCD Terminal Auxiliaries X07 and X08:

1) An Auxiliary Timer can be programmed for Txx:X07 to define the period in which the number of sequential illegal PINs must be reached.

Any valid PIN code will reset the timer and the illegal PIN count.

2) An Auxiliary Timer can be programmed for Txx:X08 to define the period in which the Terminal will remain locked out.

This feature provides enormous flexibility for Terminal lockout operation allowing:

- The time periods for these functions to be defined independently for each Terminal in the system.

- Auxiliary Timer programming (<MENU>, 5, 5) to define the time period to be programmed from 1 to 255 seconds, OR from 1 to 255 minutes.

Too Many Tries Wait

When Enhanced Terminal Lockout is activated, the actions are the same as for normal Terminal Lockout except that the Terminal keypad will be locked out for the programmed time period and the LCD message will not display the period.

(As shown opposite.)

T01 Maximum Attempts: 005

This screen allows the Maximum number of illegal PIN code attempts to be defined between values of 000 (no lockout) and 015. The number of Maximum Attempts programmed applies to both standard and enhanced lockout modes and has a factory default value of 5 attempts. (V4 or later)

Level Messages

System operation is continuously monitored for problems and special conditions. A "Level Message" is displayed on one or more of the LCD Terminals if such a condition exists and will remain on the LCD display until the condition is rectified.

Message	Description
Had Power Problem	One or more modules do not have AC power connected. If accessible, check AC power is connected and switched on.
Had Battery Problem	One or more modules have low battery voltage.
Had Network Problem	One or more modules have stopped communicating with the Control Module. There may be cable damage or a module problem.
Had Comms Problem	There is a problem with one or more Comms Tasks. eg. Central Station, PC, Printer etc. Alarm reporting may be compromised.
Some Inputs latched/isolated/tampered/unsealed.	See "View Input States". [MENU 1,5] in the User Manual.
Area about to turn On.	See "Turning Area/s Off". Deferred Area Option in the User Manual.
Area Name, Enter Code	See "Menu Group Options". (C)ancel Holdup [MENU 2,3,1]

Logoff Terminal Messages

Terminals which are logged off still display messages. Latest release Terminals have been designed so that they display the latest level message without the need to cancel previously displayed messages or refresh the screen. The trade-off is more LAN traffic as terminals are individually updated as required.

Messages displayed on a terminal whilst logged off come from 2 sources:

1. By a terminal accepting a broadcast from the Control Module.
2. By the terminal requesting an individual message for that terminal.

Terminal accepting broadcast

Terminals are programmed to accept certain broadcasts from the control module. These broadcasts are:

- A new area alarm message. eg. "Had alarm in .area 001"
- Change of state of a Level Message, eg "Had Power Problem"
- Change of state of Area, eg "Area is off"
- Change of state of a Diary eg "Happy New Year"

The terminal may or may not display certain broadcasts based on programming. Basically, the message shown at any time is the last message that has been accepted by that terminal. Latest elite terminal software (V1.6) divides level messages into 8 levels and applies additional logic in whether a level message will be accepted. If the level message received is a lower priority than the level message currently being displayed then it is discarded.
(See section below on level message priorities.)

Level Message Priorities

Whenever a terminal logs off, or the END key is pushed, an individual message is constructed for that terminal by the control module, determined by terminal programming. The actual message displayed is determined by a simple priority scheme:

- Display any area alarm messages if present and allowed OR
- Display the highest priority Level message if present and allowed OR
- Display the highest valid Diary message if present and allowed OR
- Display an area status screen if allowed OR
- Display System Ready.

LCD Terminal Beeper Activation

The Beeper in an LCD Terminal automatically provides an audible warning or indication for many normal operations and alarms etc. The Beeper can also be switched on to provide an audible indication of additional functions by activating:

- Auxiliary 5 on that Terminal. Eg. T01:X05 on Terminal 1, T02:X05 on Terminal 2 etc.
- Auxiliary 4 on that Terminal. Eg. T01:X04 on Terminal 1 etc. for a pulsing beep.

NOTE:

“Pulse Beep” option is available on Elite Terminals only and needs to be enabled in the Terminal configuration options.

To Enter Terminal configuration mode, hold down the HELP Key, short LK2 (Reset), wait 2 seconds and then release the HELP Key.

For example, to programme the Beeper on Terminal 2 to sound during the Entry Delay period, simply assign Auxiliary T02:X05 as the “Entry Auxiliary” when programming the Area.

Auxiliary 4 on the Terminal provides a pulsing Beeper sound and may be utilised in exactly the same manner if desired.

(See “Area Programming” **MENU 7, 1** for details)

Note: An Auxiliary Timer should also be programmed for that Auxiliary with a time period in seconds to guarantee that the Beeper will turn off again.

(See “Auxiliary Timers” **MENU 5, 5** for details)

If the Entry Timer in the above example is 30 seconds, programme an Auxiliary Timer for 32 seconds.

“B” Type Expander Module [MENU 7-2-3] and “E” Type Expander Module [MENU 7-2-7] Programming

IMPORTANT INFORMATION

A newly purchased Expander Module may be configured in one of two ways; As a “B” Type or as an “E” Type Expander.
Note: Must be a Zone Expander (993005) fitted with firmware V12 or later, or a Universal Expander (993004 or 995004).

A “B” Type Expander Module can have up to 32 Zone Inputs and up to 32 Auxiliaries with the use of Zone and Auxiliary Expander boards. An “E” Type Expander has 16 Zone Inputs and up to 16 Auxiliaries with the use of Auxiliary Expander Boards.

Expansion Options.

The number of Zones or Auxiliaries may be expanded with one of the following options:

- The 16 Zone expansion board increases the number of available Zones to 32. (Current P/No: 995006)

OR

- The 24 Auxiliary expansion board increases the number of Auxiliaries to 32. (Current P/No: 995007)

OR

- Up to three 8 Relay expansion boards can be connected to add 8, 16 or 24 Relays to the Expander.
(Current P/No: 995082E)

OR

- Up to 4 Lift Interface boards can be connected to provide low-level interface to Lift control systems including Lift button feedback for 8, 16, 24 or 32 floors per Lift Car. (Current P/No: 994020 [16-48V] or 994020HV [60-120V])
(Up to 64 floors may be controlled by using two consecutively numbered Universal Expander Modules per Lift Car)

See the Installation manual for further details of the expansion options.

NOTE: Only one of these expansion options can be fitted at a time.

Firmware Compatibility

Compatibility issues exist between earlier versions of Control Module firmware and earlier versions of Expander Module firmware **sold in Australia and New Zealand only**. This is best explained by use of the following table:

Zone Expander (993005) Firmware	Universal Expander (993004 995004) Firmware	DIPswitch Setting	Operation under Control Module Firmware Version 1 (V1)	Operation under Control Module Firmware Version 2 (V2) or later
V11 or earlier		Not selectable	Up to 32 Zones Up to 32 Auxiliaries Type "3" Module - "E" Type	Up to 32 Zones Up to 32 Auxiliaries Type "3" Module - "B" Type
V12 or later	V1 or later	"B" Type (Off)	Up to 32 Zones Up to 32 Auxiliaries Type "3" Module - "E" Type	Up to 32 Zones Up to 32 Auxiliaries Type "3" Module - "B" Type
V12 or later	V1 or later	"E" Type (On)	Not Recognised (Unknown Module)	Up to 16 Zones Up to 16 Auxiliaries Type "7" Module - "E" Type

NOTE:

*The move to V2 Control Module firmware resulted in the Type “3” Module designator being changed from “E” to “B”.
An additional Type “7” Module was created for the “E” Type designator.*

Module Type Selection

On Expander Modules fitted with V12 firmware or later, a DIPswitch setting on the Expander Module determines whether the module will be a “B” or an “E” Type.

On DIPswitch 1: Sw1 Off = “B” Type (32 Zones)

Sw1 ON = “E” Type (16 Zones)

Where there is a possibility that an Expander installation, initially requiring no more than 16 Zones, may be expanded to more than 16 Zones at a later date, it is recommended that the Module be made a “B” Type Expander to allow for future expansion.

Siren Operation

Expander Siren numbers control the sirens on both the “B” and “E” type Expanders.

i.e. S0 = Control Module Sirens

S1 = Sirens on E01 and B01

S2 = Sirens on E02 and B02 etc.

Reporting

Reporting with most Contact ID maps will treat the Mini Expander, Exp32 and Exp16 as the same. (With the exception of the SIMS II map which identifies all Module Types). This means that care must be taken in a reporting system that the same module number is not used if you want unique reporting.

E.g. B01, B02, E03, B04, M05, E06 etc. will ensure that all zones are reported individually. Installing modules B01, E01 and M01 will mean that only Zones 17 to 32 on Expander B01 will be reported uniquely. Expander 1, Zones 1 to 8 will represent Zones 1 to 8 on all three of the modules and Zones 9 to 16 will represent those Zones on both B01 and E01.

In SIMS II mapping, the following type numbers will apply:

Type 3 = “B” Type Expanders

Type 6 = “M” Type Expanders

Type 7 = “E” Type Expanders

NOTE: “E” and “M” Type Expanders do not report via Securitel.

Zone Debounce Time (Universal Expander Modules only)

A faster debounce time is available, if desired. This is set by DIPswitch SW1, S2 on the Expander Board and changes the debounce time for all Zones on the Expander from 400ms (Default -Off) to 40ms (On).

This feature has been designed specifically for Lift button feedback.

A debounce time of 40 mS on a standard alarm input may produce false alarms.

Refer to the Expander's Installation Guide for further details.

AC Mains Fail Delay Time (Universal Expander Modules only)

A longer Mains Fail Delay time is available, if desired. This is set by DIPswitch SW1, S3 on the Expander Board and changes the Mains Fail Delay Time for the Expander from 20 Seconds (Default -Off) to 255 Seconds (On).

Refer to the Expander's Installation Guide for further details.

**Big Expander to
alter: B01**

**B01 Present-002
but not secure**

This screen allows a Big Expander to be selected for programming. Pressing the "ON" key to change modes tells the Installer whether this module is currently in the network. If the module is not in the network it will display the word "Absent" following the Expander number. If the module is present, the Expander number is followed by the words "Present-*nnn* but not secure", or "Present-*nnn* and secure", depending on LAN security status. The number (*nnn*) in the message indicates the number of times the module has failed to send a handshake message to the Control Module since the last LAN Initialisation or LAN Secure operation.

(See "Configuring the Model 3000/Access 4000 LAN" for details of LAN Security)

**B01 Poll
Time: 060 sec**

This screen allows the Installer to specify the maximum time a module can remain out of communication with the Control Module. Only modules in unprotected Areas should be selected with short times. Modules in protected Areas can have times set up to 250 seconds maximum. If too many modules are programmed for short times then this may slow down LAN communications.

Note: Poll Time should not be set to 000.

**B01 LAN
Priority: 0**

Pressing the ON key allows the LAN Priority to be programmed between 0 and 3 for this module. LAN Priority can be used to give certain modules priority over other modules when sending information to the Control Module. Priority 0 is the highest priority and priority 3 is the lowest. For example, if a module was programmed for priority 0 and another module was programmed for priority 1 and both modules were sending information at *exactly the same time*, then the module with priority 0 would be sent first.

When programming small systems the priority of all modules are most commonly set to 0. In larger systems with many Terminals and Zone Expanders, Zone Expanders may be set to Priority 1 and Terminals may be set to priority 0, giving Terminals a faster response than Expanders during heavy LAN traffic.

**B01 Battery Test
Time: 000 min**

This screen allows the Installer to programme the duration of the Dynamic Battery Test for this module. Dynamic Battery Testing is a feature of Diary Programming. A Diary event may be used to initiate a Battery Test on all Modules within the system. The test is performed on each programmed module in turn. The duration of such a Battery Test is individually programmable from one module to the next for periods ranging from 0 (No test) to 255 minutes. Battery life will be dependent upon current consumption.

Refer to the section of this Manual on "Diary Programming" for further details on Dynamic Battery Testing and recommended Battery Test Times.

Reader Module Programming

Reader Module programming is used to program 2 Door Access Modules and Single Door Access Modules, which, for the purposes of LAN communications and programming are considered the same Module "Type".

Intelligent 4 Door Access Modules are a different Module Type and are programmed in a separate Menu Option, - <MENU>, 7, 2, 8.

Programming Single Door Access Modules. (995011 and 995011ENH)

The following programming notes must be observed when programming Single Door Access Modules:

1) When programming, the following options relating to the 2nd Door and Reader 2 must not be programmed:

- 2nd Door / 2nd Lift.
- 2 Door Mode in the Options screen.
- Reader 2 Location.
- Reader 2 Format.
- Reader 2 Mode.
- Reader 2 Keys for PIN.
- Reader 2 Module for PINs

2) A single Input is provided for an Exit/Entry button. Regardless of whether this input is used for an Exit or Entry button, it must be programmed for Exit button operation. i.e. Select the "B"utton option in the "Exit Options" of the Access Group assigned to the Door. Note that Review will therefore always record the direction for the button operation as "Exit".

3) Zones Rnn:Z03 to Z05 and Z07 and Auxiliaries Rnn:X03 to X08 do not exist on the Single Door Access Module and therefore must not be programmed.

Reader Module Programming

Reader Unit to
alter: R01

This screen allows a 2 Door Access Module OR a Single Door Access Module to be selected for programming. Pressing the “On” key to change modes displays whether this module is currently in the network. If the module is not in the network it will display the word “Absent” following the Reader number.

R01 Present-000
but not secure

If the module is present, the Reader number is followed by the words “Present-*nnn* but not secure”, or “Present-*nnn* and secure”, depending on the LAN security status. The number (*nnn*) in the message indicates the number of times the module has failed to acknowledge a poll from the Control Module since the last LAN Init. or LAN Secure operation.

(See “Configuring the 3000/4000 LAN” for details of LAN Security)

R01 Poll
Time: 060 sec

This screen allows the Installer to select the maximum time a module can remain out of communication with the Control Module. Only modules in unprotected Areas should be selected with short times. Modules in protected Areas can have times set up to 255 seconds maximum. If too many modules are programmed for short times, this may slow down LAN communications.

R01 LAN
Priority: 0

Pressing the ON key allows the LAN Priority to be programmed between 0 and 3 for this module. LAN priority can be used to give certain modules priority over other modules when sending information to the Control Module. Priority 0 is the highest priority and priority 3 is the lowest. For example, if a module was programmed for priority 0 and another module was programmed for priority 1 and both modules were sending information at *exactly the same time*, then the module with priority 0 would send first.

The most common programming in small systems is to leave all priorities at 0. In larger systems with many Terminals, Zone Expanders and Readers; Zone Expanders may be set to priority 2, Readers to Priority 1 and Terminals to Priority 0. This would give Terminals the faster response, whilst Readers would still have a faster response than Expanders during heavy LAN traffic.

R01 Purpose ->
Door Control

This screen is used to specify whether the Reader Module is to be used for “Door Control” or “Lift Control”. Use the right arrow to toggle between the two options.

R01 1st Door
D000

This screen allows the selection of the first Door (or Lift) that this Reader module is to control.

R01 1st Lift
L000

R01 2nd Door
D000

This screen allows the selection of the second Door (or Lift) that this Reader module is to control. The 2nd Door will only need to be specified if the “2 Doors” option is to be set below. A Door of D000 means no Door. Once a Door number is selected, the individual Door programming is carried out under “Door Programming” MENU 7-6. (This screen not relevant for Single Door Access Modules)

If Lift Control is chosen, a second Lift Number is not usually assigned. (For Lift Control, the Reader Module is typically installed on the Lift Car and it would not be possible to wire two readers to the same Module.)

See “Lift Programming” in the *Basic Programming section for Lift Installation notes*.

R01 **CEXFWNT2**
Opts: **nnnnnnnn**

This screen allows special options to be saved for this Reader Module that will determine how the Reader operates if it loses communications with the Control Module and sets up some general operational parameters.

The “fail” options are transferred to the Reader when the Reader first communicates with the Control Module or whenever the LAN is initialised. The Reader fail options will be set to “n” when the Reader is powered up and has not been addressed by the Control Module unless at least one “Backup Card” has been programmed. (See “Backup Card Programming” for more details.

- | | | |
|----------|-----------------------------|--|
| C | Cards | Setting this option to “Y” allows Backup Cards to operate the Door lock at the Reader for 5 seconds in the event of total communications failure with the Control Module. There can be up to 15, 31 or 127 Backup Cards on a Reader Module, depending on the type of Reader Module and the Version of Control Module firmware. See “Backup Cards”, (<MENU>, 2, 6) for details and programming information. |
| E | Enter button | Setting this option to “Y” allows the Request to Enter button to operate the Door Lock at this Reader for 5 seconds in the event of total communications failure with the Control Module. |
| X | Exit button | Setting this option to “Y” allows the Request to Exit button to operate the Door Lock at this Reader for 5 seconds in the event of total communications failure with the Control Module. |
| F | First 2 Backup Cards | Setting this option to “Y” causes the Reader to only recognise the First two Backup Cards if the “C” option above is also set. Backup Cards BC003 through to BC127 will not be recognised at this Reader. (This option would be set when a Reader is installed in a high security Area and it is undesirable to recognise all Backup Cards when the Reader cannot communicate with the Control Module.)
NOTE: Type 2, Single Door Access Modules (995011): Must be V1.08 or later.
Type 2, Two Door Access Modules (995012): Must be V1.11 or later. |
| W | DOTL Warning | This option starts a “Door Held Warning” timer if the Door is still open after the lock Auxiliary has turned off. If the Door is still open when the timer expires, a <u>local</u> DOTL Warning is generated on one of the local Auxiliary outputs and the Door Open Too Long timer will be started. The Auxiliary will be turned Off if the Door closes or on the next valid Card entry.
See “DOTL Warning Mode” at the end of this chapter for configuration options. |
| N | No LED's | No LED's. Setting this option to “Y” prevents the reader logic from operating the Valid or invalid LED's. This allows these Auxiliaries to be used for other purposes such as DOTL Warnings or an annunciation beeper.
See “DOTL Warning Mode” at the end of this chapter for configuration options. |
| T | Tongue Sense | Setting this option to “Y” allows Zone 6 (R??:Z06) and Zone 7 (R??:Z07) to be used as Tongue Sense inputs. If set to “n”, Zones 6 and 7 can be used as normal Zone inputs. |
| 2 | 2 Door Mode | Setting this option to “Y” enables “2 Door” mode for this module. In 2 Door mode, Reader Head 1 is associated with the 1st Door and Reader Head 2 is associated with the 2nd Door.
This option must be set to “No” for Single Door Access Modules. |

Refer to the table at the end of “Reader Module Programming” for details of Zone Inputs, System Inputs and Auxiliaries used in 1 Door and 2 Door Modes.

**R01 Arm Mode ->
None**

This screen allows selection of the Door Inside or Outside Area ON (arm) option to be programmed for this Reader Module. The "Zone 8" options allow Zone 8 on the Reader Module to be used as a push button input that will allow presentation of a card to turn On the Area. ie. If the card is presented while Zone 8 is in alarm, the Area will be turned On.

The Area will turn on if:

- An Area is defined for that side of the Door.
- The Area is currently Off
- The Area is allowed to be turned OFF by the User.
- Refer to the "Reader Module Installation Notes" for more details.

Options

Note: The "ARM" (PB [Pushbutton]) Input is labelled Z8 (Zone 8) on older 2 Door Reader Modules. (Part No: 993012 - Through-hole assembly)

None	No Reader Arming.
Extra Area if PB	User's Extra Area will arm if "ARM" Input is Unsealed when Card presented.
Exit Area if Count=0	Door Area you are leaving will arm if Area Count equals zero.
Exit Area if PB	Door Area you are leaving will arm if "ARM" Input is Unsealed when Card presented.
Entry Area if PB	Area on the other side of the Door will arm if "ARM" Input is Unsealed when Card presented.
Exit Area if 3 swipes	Door Area you are leaving will arm if Card presented 3 times in succession. The 3 presentations must be within 5 seconds.
Entry Area if 3 swipes	Area on the other side of the Door will arm if Card presented 3 times in succession. The 3 presentations must be within 5 seconds. <i>See "Reader Area Control" in the Applications Programming section for more details.</i>

**R01 Turn off
Extra Area? n**

This screen, if set to "Y", causes the User's Extra Area to be turned Off instead of the door Area they are about to enter.
(The "E" xtra Area Off option must be set to "Yes" in User Programming for a User to use this feature).
See "Reader Area Control" in the Applications Programming section for more details.

**R01:Rdr1 Loc. ->
Inside**

This screen allows the location of the first Reader head to be chosen by using the right arrow key. The reader location will be either Inside or outside.

**R01:Rdr1 Format>
Swipe**

This screen allows the type of Reader Head connected to the 1st Reader Input on the Reader Module to be selected.

Refer to the following table for more details.

Format	Description
None	This setting disables the Reader Input.
Swipe	Selects a magnetic Card swipe Reader. All digits between the start sentinel and up to and including the 1st separator are read. Also used for MR Access Model 6AT1B Swipe Reader with Keypad. (V4.5 or later)
Swipe Last*	Selects the swipe Last format for a magnetic swipe Card Reader. Swipe Last is similar to the Swipe format, except that instead of returning the first 30 characters of a swiped Card, it returns the last 30 characters of the Card. <i>See notes below.</i>
Insertion	Selects an insertion style magnetic Card Reader. All digits between the start sentinel and up to and including the 1stseparator are read.
Nbit Wiegand	Selects any Wiegand type Reader with the Reader automatically detecting the number of bits. If the number of bits is known for the Reader then select one of the options below for better noise immunity.
26 bit Wiegand	Selects a Wiegand Reader which outputs 26 bits including the start bit and stop bit.
27 bit Wiegand (Indala) SC = 0 to 8191	Selects a Wiegand Reader which outputs 27 bits including the start bit and stop bit. If used with Single or 2 Door Access Modules they must be: -Type 2 (995011 / 995012) or -Type 1,Version 7 or later, fitted with at least V11 firmware. (Use Nbit Wiegand on earlier version Readers if cards are 27 bit Wiegand.)
30 bit Wiegand	Selects a Wiegand Reader which outputs 30 bits including the start bit and stop bit.
32 bit Wiegand	Selects a Wiegand Reader which outputs 32 bits including the start bit and stop bit.
34 bit Wiegand	Selects a Wiegand Reader which outputs 34 bits including the start bit and stop bit.
36 bit Wiegand	Selects a Wiegand Reader which outputs 36 bits including the start bit and stop bit.
37 bit Wiegand	Selects a Wiegand Reader which outputs 37 bits including the start bit and stop bit.
40 bit Wiegand	Selects a Wiegand Reader which outputs 40 bits including the start bit and stop bit.
Nbit Fast	Identical to Nbit Wiegand, except that it processes cards approximately 200ms faster. This format should be used in preference to Nbit Wiegand except in rare circumstances where very slow Wiegand data is being read. If used with Single or 2 Door Access Modules they must be: -Type 2 (995011 / 995012) or -Type 1,Version 9 or later, fitted with at least V12 firmware.
Proxpin	This format is identical to Nbit Fast except that keys pressed from an HID5355, Keri P-600 or Indala ARK-501 keypad can be buffered and sent as Wiegand data. If used with Single or 2 Door Access Modules they must be: -Type 2 (995011 / 995012) or -Type 1,Version 9 or later, fitted with at least V12 firmware.

Additional information on the "Swipe Last" format is found on the following page.

Swipe Last Format

Swipe Last format can be useful for:

1. Allowing 60 characters of magnetic Card data to be inspected using "Test Cards" (Menu 4, 5) by reading the Card twice; once with "Swipe" format set and once with "Swipe Last" format set.
2. For sets of Cards that contain their uniqueness in the last part of the Card data rather than the first part. The Swipe Last format would allow these Cards to be individually distinguished.

eg. Try "Swipe Last" when "Swipe" format returns the same data for all Cards when you test them via Test Cards [MENU 4,5].

The Swipe Last Format should only be used in conjunction with "Credit Card" mode. An Account No. cannot be entered when programming Cards, the Card MUST be read at Reader 01.

In Credit Card mode, with "Swipe" or "Insertion" format, all Card digits up to the first control character (displayed as "A,B,C,D,E or F" on test screen) are used in the hash calculation.

When "Swipe Last" format is selected, all digits up to the end sentinel (displayed as a "F" on test screen) are used in the hash calculation.

The Swipe Last format requires Reader Modules to be fitted with U07, Version 6 or higher.

**R01:Rdr1 Mode ->
Credit Card**

This screen determines how the Card will be processed by the 3000/4000 system and what type of Users will be allowed to use this Reader.

The choices are:

Credit Card

This setting is used for magnetic swipe or insertion credit Cards. Users that use this Reader must be programmed as a "Credit Card" User (See User Programming)

Direct Entry

This setting is used for Wiegand format type Cards where the Site Code or Card numbering system is unknown. Users that use this Reader must be programmed as "Direct Entry" Users. (See User Programming)

Site Code

This setting is used for:

-Inner Range 3000/Access 4000 Magnetic Swipe Card format.

-Wiegand formats where the Site Code and Card numbering system is known.

Note: Site Code processing is currently supported in 26 Bit, 27 Bit (Indala) and 34 Bit Wiegand formats.

Users that use this Reader must be programmed as "Site Code" Users. (See User Programming)

The actual Site Codes are programmed and enabled in the Access Menu, and the way the Site Code is stored on the Card is selected as the Site Code method in General System Options programming.

Any Card

This setting is used to allow any credit card to grant access and save the account number to review. For this option to function, “Swipe” format must be selected and the Reader Module must be programmed for single Door operation.

Whenever a card is swiped, the account number will be saved to review in two separate entries.

eg. “Card 1st = 1234567890 (First 10 digits)
 “Card 2nd=987654 (Remaining digits)

R01:Rdr1 Keys
LCD Term

This screen allows a choice of from where the PIN number is to be obtained when “Card and PIN” operation has been specified.

- | | |
|-----------|---|
| LCD Term | Get PIN from a 3000/4000 LCD Terminal |
| LED Term | Get PIN from a 3000/4000 LED only keypad. (Not yet available) |
| ARK-501 | Get PIN from an Indala Ark-501 or Keri P-600 Proximity Plus PIN code Reader. |
| HID5355 | Get PIN from a HID5355 Proximity Plus PIN code Reader. |
| MR Access | Get PIN from an MR Access Model 6AT1B Magnetic Swipe Plus PIN code Reader. |

- NOTES:
- 1) **HID5355.** If an “HID5355” Proximity and PIN Reader is used, ensure the HID Reader part number is 5355xxK00. The last 3 characters must be K00 for correct keypad option and PIN code buffering. (xx=Revision and colour options which will not affect operation)
- 2) **Keri P-600.** If a “Keri P-600” Proximity and PIN Reader is used, the Reader must be configured for “8-bit Burst” mode via the following 2 steps:
- i) Present the Keri Wiegand Keypad Data Mode control card to the Reader. The Reader beeps 4 times and then enters Site Code programming mode.
- ii) Press the “#” key. (This switches the reader to 8-bit Burst mode)
The Reader beeps 4 times to indicate programming mode has ended.
- 3) **MR Access Model 6AT1B. (V4.5 or later).**
If an “MR Access 6AT1B” Reader is used, the Reader must be configured to send a 4 digit PIN as a single packet.
The related options are programmed as follows:
- | | | |
|---------------|--------------------------|--------------|
| MENU, 7, 2, 4 | Reader Format: | Swipe. |
| | Reader Mode: | Site Code. |
| MENU, 7, 5, 1 | Site Code Type: | General. |
| | General Site Total Bits: | 00 |
| | Site Size / Offset: | As required. |
| | User Size / Offset: | As required. |
- 4) When using the “Proximity Plus PIN code” Readers (HID5355, ARK-501, Keri P-600 & MR Access), only the “Card + PIN” and “Card Only” operations are supported.
i.e. “PIN Only” operation is not supported.

**R01:Rdr1 Module
for PINs: T000**

This screen specifies which LCD Terminal module is to be used for keying in PIN codes when this Door requires Card & PIN for access to be granted to the User. It is recommended that all "Alarm Message Types" are set to "NO" for LCD Terminals used in Access Control operations unless it is necessary for alarms to be displayed on them.

**R01:Rdr2 Loc. ->
Outside**

The remaining screens are identical to those for the 1st Reader head and allow options for the 2nd Reader head to be programmed.

Note that these screens are not relevant to Single Door Access Modules.

**R01:Rdr2 Format>
Swipe**

**R01:Rdr2 Mode ->
Credit Card**

**R01:Rdr2 Keys
LCD Term**

**R01:Rdr2 Module
for PINs: T000**

The tables below show how the 2 Door Access Module connections vary between "One Door" and "Two Door" modes:

Reader Auxiliary Outputs

Auxiliary	1 Door Mode		2 Door Mode	
	993012	995012 (CE)	993012	995012 (CE)
Rnn:X01	Door #1 Lock	Door #1 Lock	Door #1 Lock	Door #1 Lock
Rnn:X02	Reader #1 Valid*	Reader #1 Valid*	Reader #1 Valid*	Reader #1 Valid*
Rnn:X03	Reader #1 Invalid*	Reader #1 Invalid*	Reader #1 Invalid*	Reader #1 Invalid*
Rnn:X04	Reader #2 Valid*	Reader #2 Valid*	Door #2 Lock	Door #2 Lock
Rnn:X05	Reader #2 Invalid*	Reader #2 Invalid*	Reader #2 Invalid*	Reader #2 Invalid*
Rnn:X06	Not available	Spare	Not available	Reader #2 Valid*
Rnn:X07	Not available	Spare or DOTL Pre-warn Door #1	Not available	Spare or DOTL Pre-warn Door #1
Rnn:X08	Not available	Spare	Not available	Spare or DOTL Pre-warn Door #2

* These Auxiliaries can be prevented from operating due to valid/invalid Cards by setting the "n"o LED option for the Reader. This enables these Auxiliaries to be used for other purposes, if required.

NOTE

Later Reader Module firmware allows the assignment of these Auxiliaries to be changed to accommodate Door Open Too Long (Door Held) Pre-alarm Warning. i.e. 2 Stage DOTL alarms.

Refer to the "DOTL Warning" Section at the end of this section.

Reader Zone Inputs

Zone Input	1 Door Mode		2 Door Mode	
	993012	995012 (CE)	993012	995012 (CE)
Rnn:Z01	Door #1 Reed	Door #1 Reed	Door #1 Reed	Door #1 Reed
Rnn:Z02	Door #1 REN Input*	Door #1 REN Input*	Door #2 REX Input*	Door #1 REN Input*
Rnn:Z03	Door #1 REX Input*	Door #1 REX Input*	Door #1 REX Input*	Door #1 REX Input*
Rnn:Z04	Not available	Not used	Not available	Door #2 REN Input*
Rnn:Z05	Spare	Spare	Door #2 Reed	Door #2 Reed
Rnn:Z06	Spare or Door #1 Tongue Sense	Spare or Door #1 Tongue Sense	Spare or Door #1 Tongue Sense	Spare or Door #1 Tongue Sense
Rnn:Z07	Spare	Spare	Spare or Door #2 Tongue Sense	Spare or Door #2 Tongue Sense
Rnn:Z08	Spare or Arm Input	Not used	Spare or Arm Input	Door #2 REX Input*

* These Zones are sealed when open circuit. Therefore, the Normally Open and Common contacts of the send button are used.

Zones labelled "Spare" are available as general purpose Zone Inputs if Tongue sense is not set.

Reader System Inputs

Input	Alarms when	Seals when
Rnn:S01 (Cabinet Tamper)	When Tamper Inputs go closed circuit.	When Tamper Inputs go open circuit.
Rnn:S02 (Low Volts)	When LAN voltage falls below 11 V	When LAN voltage goes above 11V
Rnn:S03 (1st Door Forced)	A Door Reed (Z01) goes from seal to alarm or tongue sense (Z06) goes from seal to alarm whilst the Door is locked (Aux 1 off).	Door Reed (Z01) and tongue sense (Z06) are sealed and Door is locked (Aux 1 off).
Rnn:S04 (1nd Door Held)	A Door Reed (Z01) seal to or tongue sense (Z06) is in the alarm or tamper condition for greater than the Door open time.	Door Reed (Z01) and tongue sense (Z06) are sealed.
Rnn:S05 (2nd Door Forced)	A Door Reed (Z05) goes from seal to alarm or tongue sense (Z07) goes from seal to alarm whilst Door is locked (Aux 1 off)	Door Reed (Z05) and tongue sense (Z07) are sealed and door is locked (Aux 1 off).
Rnn:S06 (2nd Door Held)	Door Reed (Z05) or tongue sense (Z07) is in the alarm or tamper condition for greater than the door open time.	Door Reed (Z05) and tongue sense (Z07) are sealed.
Rnn:S07 (Illegal Card)	When an illegal card is presented.	No restore generated.
Rnn:S08 (LAN Fail)	When module is lost.	When module is found or recovered.

If the Tongue sense option is set to No, tongue sense Inputs are ignored in the above logic.

LED Indications

Reason	No. of Flashes
No Door Programmed	4
No Access Group Assigned	4
Door not in list	4
Card Cancelled	3
Area Armed	3
Wrong Issue	3
Not Site Code User	3
Format Mismatch	3
No Card Found	3
User # too big	3
Site Code not found	3
Card not found	3
TimeZone violation	2
Card Expired	2
Anti-passback violation	2
Need PIN.	2
Wrong PIN/No Terminal for PINs	2
No Door List	2
Time-out for 2nd User	2
Button not Allowed	1

DOTL Warning

A "DOTL Pre-warn" output may be generated for each Door by the Reader Module to indicate that the Door is open past the valid "Door Open Time" as set in Door programming.

This mode is activated by setting the "W" (DOTL Warning) option to YES and ensuring that the "N" (No LEDs) option is set to NO under Reader Programming.

If the Zone Inputs are still in alarm after the Lock Auxiliary has turned Off, the Door Open timer will start for the specified time. If at the end of this time the Door Inputs are still in alarm, the "Warn" output will be triggered.

If the Door Inputs are still in alarm for a further "Door Open" time period, the System Input for that Door HELD will be triggered. (i.e. The time taken before the Door Held System Input is triggered is double the programmed Door Open Time).

See the following information for Control Module and Reader Module firmware requirements for this feature.

IMPORTANT NOTE:**Reader Module Firmware Compatibility**

Please consult the table below for details of which DOTL Warning features are supported by the various combinations of Reader Module and Control Module firmware.

NOTE:

The 2 Door Reader Module Part no:

- **993012** is a Through-hole PCB assembly which ceased production in 4th quarter 2000.
- **995012** is the replacement Surface mount product which was released in 3rd quarter 2000.

Reader Module.		Control Module Firmware	DOTL Warning
993012 2 Door Access Modules (Through-hole assembly)			
Chip U1: V14	Chip U7: V9	V3 or later	DOTL Warning operates on 1st Door & 2nd Door.
V13	V9	V3 or later	DOTL Warning operates on 1st Door Only. 2nd Door Lock output will not work. i.e. Can only be used in Single Door mode.
V12	V9	V3 or later	DOTL Warning not supported.
All 995012, 2 Door Access Modules V1.00 or later. (Surface mount assembly)		V3 or later	DOTL Warning operates.
All 995011, Single Door Access Modules V1.00 or later. (Surface mount assembly)		V3 or later	DOTL Warning operates.

The tables on the following page provide details of the mode configurations that are available for the different versions of the Reader Modules.

Mode configurations available in 2 Door Access Module, 995012. (Surface mount assembly)

W = Warn DOTL option. N = No LEDs mode.

Y = Yes. n = No. X = Either Yes or No

Note: Spare Auxiliaries may be used for applications other than Door processing.

With Control Module firmware V4 and 2 Door Access Module firmware V1.10 or later.

995012	WN	WN	WN
Auxiliary	nn	Yn	XY
X01	Door #1 Lock	Door #1 Lock	Door #1 Lock
X02	Reader 1. Valid LED.	Reader 1 Valid / Invalid	Spare
X03	Reader 1. Invalid LED.	Spare	Spare
X04	Door #2 Lock	Door #2 Lock	Door #2 Lock
X05	Reader 2. Invalid LED.	Reader 2 Valid / Invalid	Spare
X06	Reader 2. Valid LED.	Spare	Spare
X07	Spare	Door #1 DOTL Pre-warning	Spare
X08	Spare	Door #2 DOTL Pre-warning	Spare

Mode configurations available in Single Door Access Module, 995011.

995011	WN	WN	WN
Auxiliary	nn	Yn	XY
X01	Door #1 Lock	Door #1 Lock	Door #1 Lock
X02	Reader 1. Valid / Invalid LED.	Reader 1 Valid / Invalid / DOTL Pre-warn	Spare

Mode configurations available in 2 Door Reader Module, 993012. (Through-hole assembly)

993012	WN	WN	WN
Auxiliary	nn	Yn	XY
X01	Door #1 Lock	Door #1 Lock	Door #1 Lock
X02	Reader 1. Valid LED.	Rd 1 Valid / Invalid / DOTL Pre-warn (Valid/Invalid suppressed if DOTL On.)	Spare
X03	Reader 1. Invalid LED.	Spare	Spare
X04	Door #2 Lock	Door #2 Lock	Door #2 Lock
X05	Reader 2. Invalid LED.	Rd 2 Valid / Invalid / DOTL Pre-warn (Valid/Invalid suppressed if DOTL On.)	Spare
X06	Spare (no output)	Spare (no output)	Spare (no output)
X07	Spare (no output)	Spare (no output)	Spare (no output)
X08	Spare (no output)	Spare (no output)	Spare (no output)

Wireless Zone Registration

The Model 3000/Access 4000 system can be connected to certain Wireless Detection System products via a serial RS232 connection.

This allows up to 208 Wireless Detection devices (Transmitters) to be monitored by the system via a simple interface between a Control Module UART Port and the Wireless Receiver.

NOTE: The number of Wireless Detection devices that can be monitored will depend on the Memory Size and configuration selected, and the PIC Options Microchip fitted to the Control Module.

This programming function allows the Transmitters (Wireless Detectors/Sensors) used in conjunction with particular Wireless Receiver products to be registered with the Model 3000/Access 4000 system.

Inovonics MF Series

Control Module Firmware V4.5 or later only.

Transmitters used in conjunction with an Inovonics MF series Wireless Receiver need to be registered with the Model 3000/Access 4000 system using this programming function.

Important note: This function is not used for Transmitters used in conjunction with the Inovonics FA400 Wireless Receiver. When using the FA series, Wireless Zones are pre-mapped to Transmitter IDs.

Refer to "Comms Task Formats. Comms-24" for FA400 Zone Mapping details.

Registration is performed by first Programming a Comms Task for "Inovonics" format, connecting the IR400 Interface and the Inovonics MF series Receiver, and setting the Comms Task to active. (The "Inovonics" Comms Task must be operational to register the Transmitters.)

Refer to "Comms Task Formats. Comms-24" for information on the operation and programming of the "Inovonics" Comms Task.

When this is done, Wireless Zone Registration can now be performed.

Reporting

Important Note: Some communication formats are unable to report individual Inovonics Zones or are limited as to what they can report on each Zone. See the Tables section at the rear of this manual for Zone mapping details.

NOTE: "N" Type Modules do not report unique Zone IDs via Securitel.

Using any LCD Terminal, Logon and select RF module programming from the Menu. [MENU, 7, 2, 5]

N01:Z01
Not Registered

The screen will display the first Wireless Network Zone number and the current registration status.

Press the "Reset" button on the Transmitter you wish to register as N01:Z01. The Transmitter will be registered, the LCD Terminal will beep and the screen will automatically advance to the next zone:

N01:Z02
Not Registered

The screen will now display the next Wireless Network Zone number and the current registration status.

Now press the "Reset" button on the Transmitter you wish to register as N01:Z02. The transmitter will be registered and the screen will advance as before.

All Transmitters can be registered sequentially by simply pressing the Reset button on each of the Transmitters in the required Wireless Zone order.

At any point, the Arrow keys can be used to select a Zone in order to View the status, or to Register the Transmitter:

^ (Up)	Go back 1 zone
v (Down)	Go to next zone
> (Right)	Advance 16 zones
< (Left)	Go back 16 zones

N01:Z09
Registered

A "Registered" message will be displayed if the zone is already registered.

Zone already
Registered

A "Zone already Registered" message will be displayed if a "Reset" button is pressed for a Zone that is already registered to a Transmitter.

N02:Z07
Registered

If the displayed Zone is not registered, but a "Reset" button is pushed on a Transmitter that is already registered to another Zone, the LCD Terminal will beep for 1 second and the display will jump to the Zone that it has been registered to.

N01:Z01
Not Registered

To de-register any Zone, use the arrow keys to display the selected zone as described above and press the <OFF> key.

To register any Zone (not in sequence), use the arrow keys to display the selected Zone. If the Zone is already registered, press the <OFF> key. Now press the "Reset" button on the Transmitter that you wish to register as this Zone.

Note that the registration takes note of all 4 ID bytes used to identify a Transmitter.

“M” Type Mini Expander Module Programming

IMPORTANT INFORMATION

The 8 Zone Mini Expander, designated as an “M” Type module, provides low cost expansion where only a small number of Zones / Auxiliaries are required. The Module is powered from the LAN or External Supply and has no siren outputs.

Mini Expanders can only be used with Control Module Firmware V2 or later.

External Power Supply Connection Option.

An Inner Range External Power Supply (99405x Series) can be connected to the Mini Expander Header connection, X2, via a Ribbon cable (P/No. 605049).

When this method of connection is used:

-Mini Expander Zones 7 and 8 are connected to the AC Fail (Mxx:Z07) and Low Battery (Mxx:Z08) outputs of the Power Supply and cannot be used as normal Zone Inputs. These Zones should be programmed to report the AC Fail and Low Battery conditions.

-Auxiliary 8 controls the “PSDOWN” function on the Power Supply. If JP2 is fitted on the Power Supply, Auxiliary 8 must be ON to enable AC.

Mini Expander Auxiliary 8

Auxiliary 8 on a Mini Expander has special functionality. If the Auxiliary is programmed for a time in minutes then the auxiliary will turn on for a time in 10 millisecond increments. Eg. If the Auxiliary is programmed for 50 minutes, the Auxiliary will turn on for $50 \times 10\text{ms} = 500\text{ms} = 0.5 \text{ seconds}$.

In addition, whilst the Auxiliary is timing in this mode, if one or more counts are detected on **all** defined counter inputs of 2 Trg points Type, the Auxiliary will be turned off early.

This feature lends itself specifically to the testing of cameras. All counting inputs of 2 Trg Points Type are assigned to an Area with Self Testing Enabled (Refer to the Applications Section of this Manual).

The Test Auxiliary is set to a suitable phantom Auxiliary, buzzer or LED and the “Qualify for Exit” flag is set to YES. A Calculated Auxiliary is configured to turn on Auxiliary 8 on the Mini Expander for a time in minutes when the Test Auxiliary is turned on. (Refer to “Calculated Auxiliaries”)

When the Area is turned on a , Test Mode is initiated and Auxiliary 8 is turned on for the corresponding time in 10ms increments. Auxiliary 8 starts all cameras running and will stay on until frame counts have been detected on **all** defined counter inputs on the Mini Expander. It will then turn off, allowing the Area in Test Mode to relinquish the test status and be turned on. A Successful test is achieved in a very short period of time, minimising the amount of film that is used through the cameras. This proves to be a significant saving to customers who operate in environments which demand the frequent testing of cameras.

Reporting

Reporting with most Contact ID maps will treat the Mini Expander, Exp32 and Exp16 as the same. (With the exception of the SIMS II map which identifies all Module Types). This means that care must be taken in a reporting system that the same module number is not used if you want unique reporting.

Eg. B01, B02, E03, B04, M05, E06 etc. will ensure that all zones are reported individually. Installing modules B01, E01 and M01 will mean that only Zones 17 to 32 on Expander B01 will be reported uniquely. Expander 1, Zones 1 to 8 will represent Zones 1 to 8 on all three of the modules and Zones 9 to 16 will represent those Zones on both B01 and E01.

In SIMS II mapping, the following type numbers will apply:

Type 3 = “B” Type Expanders

Type 6 = “M” Type Expanders

Type 7 = “E” Type Expanders

Mini Expander to
alter: M01

M01 Present-002
but not secure

This screen allows a Mini Expander to be selected for programming. Pressing the "ON" key to change modes tells the Installer whether this module is currently in the network. If the module is not in the network it will display the word "Absent" following the Expander number. If the module is present, the Expander number is followed by the words "Present-nnn but not secure", or "Present-nnn and secure", depending on LAN security status. The number (nnn) in the message indicates the number of times the module has failed to acknowledge a poll from the Control Module since the last LAN Initialisation or LAN Secure operation.

(See "Configuring the Model 3000/Access 4000 LAN" for details of LAN Security)

M01 Poll
Time: 060 sec

This screen allows the Installer to specify the maximum time a module can remain out of communication with the Control Module. Only modules in unprotected Areas should be selected with short times. Modules in protected Areas can have times set up to 255 seconds maximum. If too many modules are programmed for short times then this may slow down LAN communications.

Note: Poll Time should not be set to 000.

M01 LAN
Priority: 0

Pressing the ON key allows the LAN Priority to be programmed between 0 and 3 for this module. LAN Priority can be used to give certain modules priority over other modules when sending information to the Control Module. Priority 0 is the highest priority and priority 3 is the lowest. For example, if a module was programmed for priority 0 and another module was programmed for priority 1 and both modules were sending information at *exactly the same time*, then the module with priority 0 would be sent first.

When programming small systems the priority of all modules are most commonly set to 0. In larger systems with many Terminals and Zone Expanders, Zone Expanders may be set to Priority 1 and Terminals may be set to priority 0, giving Terminals a faster response than Expanders during heavy LAN traffic.

M01 Zone1 Type->
Holdup/Sus

These screens allow the Installer to select the type of Input on Zone 1. Additional information on Zone Types is provided at the end of this document.

M01 Zone2 Type->
Holdup/Sus

...etc.

Normal

When selected, the system will treat this Input as a normal input for use with standard detection devices. Three states on the input are recognised; Alarm, Seal and Tamper.

Counter

When selected, the system will treat this input as a Counter Input. The operation of this Counter Input depends on the counter type and trigger values assigned to the input in **Counter Programming MENU 7, 5, 8**

Notes: The "Counter" Zone Type can only be utilized with Control Module Firmware V3 or later.

"2 Trg Points" type counters utilise two trigger levels which are individually programmable by the Installer. When the count on the input

exceeds the first trigger level, an alarm is generated on that zone input. When the count exceeds the second trigger level, an alarm is generated on a corresponding system input. Both the zone input and the system input may be assigned different Areas in order that different functions or auxiliaries may be activated. Zone Inputs and System Inputs each must be assigned an Area if they are to be used within the system.

The above application is ideally suited to camera frame counting where notification is required when the film is low as well as when the film is out.

The corresponding system inputs have an offset of one.
(M01:S01 is the "Low Voltage" System Input.)

Trigger one	Trigger two
M01:Z01	M01:S02
M01:Z02	M01:S03
M01:Z03	M01:S04
M01:Z04	M01:S05
M01:Z05	M01:S06
M01:Z06	M01:S07
M01:Z07	M01:S08

M01:Z08 has no corresponding system input and therefore should not be used for two trigger point counting.

Holdup

When selected, the system will treat this input as a Holdup Input. Upon recognition of an Alarm state, the system will turn On Auxiliary 1 on the Mini Expander (i.e. M01:X01) within several milliseconds.

Notes: The "Holdup" Zone Type can only be utilized with Control Module Firmware V3 or later.

Suspicion

When Selected, the system will treat this input as a Suspicion Input.

Notes: The "Suspicion" Zone Type can only be utilized with Control Module Firmware V3 or later.

M01:S01 is a Low Voltage System Input.

Physical Inputs	Suspicion Inputs
M01:Z01	M01:S02
M01:Z02	M01:S03
M01:Z03	M01:S04
M01:Z04	M01:S05
M01:Z05	M01:S06
M01:Z06	M01:S07
M01:Z07	M01:S08

Suspicion Inputs require each input to be physically connected to the Mini Expander Zone Input connectors but do not monitor the Alarm state of the input. Instead, Suspicion Inputs monitor the Seal to Short Circuit change of state via the Zone Extra system input.

M01:Z08 cannot be used, as no corresponding Zone Extra system input exists.

Holdup/Sus

When selected, the system will treat this input as a Holdup/Suspicion Input.

Notes: The “Holdup/Suspicion” Zone Type can only be utilized with Control Module Firmware V3 or later.

M01:S01 is a Low Voltage System Input.

Holdup Inputs	Suspicion Inputs
M01:Z01	M01:S02
M01:Z02	M01:S03
M01:Z03	M01:S04
M01:Z04	M01:S05
M01:Z05	M01:S06
M01:Z06	M01:S07
M01:Z07	M01:S08

M01:Z08 cannot be used as no corresponding Zone Extra system input exists.

M01 Zone1 ->
Debounce 400ms

These screens allow the Installer to set the debounce time for each Zone input.

Note: The “Zone Debounce Time” can only be utilized with Control Module Firmware V3 or later.

M01 Zone2 ->
Debounce 400ms

Debounce Time

The Debounce time refers to the interval of time a signal on an input must remain at the pre-determined level to be recognised by the system as having changed state. Signal fluctuations occurring for less than the debounce time will be ignored by the system. Those signals that achieve the debounce time generate an event that is reported to the Control Module. A setting of 300-400ms is suitable for most detectors.

M01 Zone3 ->
Debounce 400ms

...etc.

The Mini Expander allows the Installer to individually set the debounce time for each of the 8 Zone inputs. Debounce time options range from 5ms to 1250ms (+/- 5ms). This allows the Mini Expander to be used within institutions such as Banks, which specify very low debounce times for Holdup inputs, or as a counter interface for monitoring sensitive electronic devices or meters.

The following Debounce Time settings are available:

5mS,	10mS,	20mS,	30mS,	40mS,	50mS,	75mS,
100mS,	200mS,	300mS,	400mS,	500mS,	600mS	750mS,
1000mS,	1250mS.					

ZONE TYPES

The table below shows the state of the **Zone Input** (Mxx:Zxx) as a function of Zone Type for the 4 possible input conditions.

Condition	Normal Zone	Holdup	Suspicion	Holdup/Sus
Open Circuit	Tamper	Tamper	Tamper	Tamper
Alarm -9k (6k8+2k2)	Alarm	Alarm	Alarm	Alarm
Seal -2k2	Sealed	Sealed	Sealed	Sealed
Short Circuit	Tamper	Tamper	Sealed	Sealed

The table below shows the state of the **Zone Extra System Input** (Mxx:Sxx) as a function of Zone Type for the 4 possible input conditions.

Condition	Normal Zone	Holdup	Suspicion	Holdup/Sus
Open Circuit	None	None	Sealed	Sealed
Alarm -9k (6k8+2k2)	None	None	Sealed	Sealed
Seal -2k2	None	None	Sealed	Sealed
Short Circuit	None	None	Alarm	Alarm

A Holdup Input is identical to a Normal Zone input except that a seal to alarm transition occurring on an enabled zone will unconditionally turn on Auxiliary 1 on the Mini Expander and report the fact to the Control Module. This operation takes only milliseconds and is ideally suited to bank operations where screens need to be activated with minimal delay.

To implement Hold-up buttons, programme an area with the "Hold-up area" option set to YES, the pulse time set to the required number of seconds (eg. 30 seconds) and the pulse count set to a suitable number (eg. 2). Assign all zones to be used as hold-up buttons into that area with the process group set to "Pulse count" and the appropriate alarm processing. Programme at least one user with a Menu Group where the "Cancel Hold-up" option is set.

In the above example, if the hold-up button is pushed, a timer is started and 30 seconds later an alarm is generated, unless a code is entered during the 30 second delay which will cancel any pending hold-up button. If a second button is pushed during the 30 second delay, or the same button is pushed again, the hold-up button(s) will be processed immediately.

A Suspicion Input is identical to a Normal Zone input except the short circuit tamper condition is regarded as a seal. In addition, a Suspicion Zone input will manipulate the corresponding system "Zone Extra" input.

A Holdup/Sus Input performs in both of the above manners. The system treats this input in a similar fashion to that of the Holdup input but in addition utilises the corresponding system "Zone Extra" Input to generate "Suspicion" alarms. This system input may be placed in an appropriate Area and Processed as required to activate cameras etc.

Counter Input

When a zone type is defined as counter, the operation of the zone inputs and zone extra system inputs are dependent upon counter type. At this time only the 2 Trigger Points counter type is defined.

2 Trigger Points Type***“Counter” Zone Type***

The counter will increment by 1 whenever the input changes from Open Circuit to Short Circuit. The table below shows the operation of the Zone Input and corresponding System Input for a counter of “2 Trg Point” Type.

Condition	Zone Input	System Input
Current Count below Trigger Count 1	Sealed	Sealed
Curernt Count above Trigger Count 1	Alarm	Sealed
Current Count below Trigger Count 2	Alarm	Sealed
Current Count above Trigger Count 2	Alarm	Alarm

- Note:
1. The actual input state of the Zone cannot be monitored with a count type input
 2. The count is stored in the Mini Expander. This means that even if the control panel is replaced the count is unaltered. If the Mini Expander is replaced, the count must be readjusted.

“E” Type Expander Module Programming

Refer to “B” Type Expander Module Programming.

[MENU, 7, 2, 3]

Intelligent 4 Door Access Module Programming

Introduction

The Intelligent 4 Door Access Module provides an interface for up to 4 Doors using 4 Card / Prox Readers or, if used in conjunction with the 4 Reader Expansion board, up to 4 Doors using Card in / Card out operation with 8 Card Readers. Multiple Intelligent 4 Door Access Modules may also be used within the same system, the number of modules being dependent upon the Memory size and configuration used.

Not only does the module boast Door capacity in excess of the standard Access Modules, it also provides continued Door operation in the event of LAN communication failure to an ACCESS 4000 Control Module. The Intelligent 4 Door Access Module will automatically switch to Offline Mode 5 seconds after a failed LAN communication to the controller is detected. A failed communication will be detected, for example, if there is no power to the Control Module or there is a break in the LAN **and** an event has occurred which would require the module to communicate with the Control Module. Events would include a User presenting a Card at a Card Reader which is attached to the Intelligent 4 Door Access Module or a regular poll initiated by the module.

The switch to Offline Mode is fundamentally transparent to the User. Enhanced LCD Terminals attached to the Local LAN of the Intelligent 4 Door Access Module do, however, display a notification message that the module is operating Offline.

Database. The Module maintains an updated record of many of the Access 4000 database structures including Users, User Types, Doors, TimeZones, Holidays, Access Groups, Site Codes, Area Count, Door Interlock Groups, Intelligent Reader, Area Lists and Door Lists. If at any stage the main database is altered, the changes are automatically downloaded to each Intelligent 4 Door Access Module. Database structures will only complete their comparison and update when all Terminals have been logged off. Once editing is finished, the Installer must therefore log off from the Terminal.

Whereas an initial download at the time of module installation or Memory defaulting may take several minutes, ongoing database alterations are downloaded in a matter of seconds. **Initial** download time for a 128K memory configuration is approximately 1-2 minutes and, for a 512K memory configuration, approximately 15 minutes. These times do not increase with an increased number of Intelligent 4 Door Access Modules on the LAN.

Should a database structure change whilst an Intelligent Access Module is Offline, a comparison will be performed within 60 seconds of the Reader recovering. If the comparison indicates a mismatch of a particular structure, that particular structure will automatically be updated. In the majority of cases, operation of those Doors attached to the Intelligent Access Module is uninterrupted during the update of database structures. If either Intelligent Access Module Programming or Door structures have been altered, Doors attached to Intelligent Access Modules will not operate until the database in each has been updated (a few seconds) and LED1 on the board has returned to the off state.

This comparison will also occur 60 seconds after a LAN Initialize or LAN Secure has been performed. Whereas other modules on the LAN require a LAN Initialize to ensure that all programming changes have been passed onto the relevant modules, this is **not** necessary for programming changes to Intelligent Access Modules only. A LAN Initialize or LAN Secure will cause a comparison and, if necessary, an update of the altered database structures in each Intelligent Access Module.

When an Intelligent Access Module is powered up, there is a 60 second delay before the database starts to update. This delay is necessary to ensure that all modules, including those within larger systems, have had time to properly address and initialize prior to the update of database structures. On-board LED's indicate the status of the Intelligent Access Module (Refer to the Intelligent 4 Door Access Module Installation Guide).

Commissioning. While not compulsory, it is recommended that all system programming is done prior to connecting the Intelligent 4 Door Access Modules to the LAN. When the programming is complete, connect all the Modules to the LAN, then perform a System Reset (MENU, 7, 8, 9), followed by a LAN Secure (MENU, 7, 8, 1). This will allow all Intelligent 4 Door Access Modules to update at the same time, therefore minimizing the commissioning time, especially in systems where the Control Module is fitted with the 512k (4MBit) Memory option.

Operation

Whilst Online, the Intelligent Access Module supports all the access control features you would expect of such an intelligent module and many more:-

- Control of up to 4 independent Doors
- Connection to 4 Reader head inputs as standard, expandible to 8 Reader heads (Card in / out)
- 4 On board relays with normally open and closed contacts for lock auxiliaries
- Onboard 3A Power Supply
- Deep discharge battery cutoff
- Individual Door Reed, Tongue Sense, REN, REX and Arming inputs for each Door
- Individual Valid, Invalid, DOTL warning outputs for each Door
- 8 General purpose Dual EOL Zone Inputs
- 8 General purpose open collector auxiliary outputs
- Separate Cabinet Tamper Input
- Lock Tamper circuit for detection of lock disconnection
- Fully isolated LAN input up to 5KV
- Separate Local LAN for Terminals used during Communication failure (See below)

The only Offline limitations are those functions that require information from modules that will not be available in the Offline state. Accordingly, Intelligent Access Module Programming allows some Offline assumptions to be made. These include the state of the Inside and Outside Area of a Door and the Open and Closed status of Doors for Interlocking purposes.

Whilst Offline, Operation of Anti-passback and Door Interlocking features will continue across groups of up to 4 Doors, provided that **all** associated Doors are assigned to the one Intelligent Access Module. In this Offline state with all associated Doors attached to the one Intelligent 4 Door Access Module, Anti-passback and Door Interlocking processing is completely isolated from the rest of the LAN and does not require any additional entity status from the Control Module or any other module on the LAN which is unavailable to the Intelligent Access Module whilst it is in the Offline mode.

Limited Door Interlocking logic will apply for Interlock Groups comprising Doors assigned to other modules in addition to Doors assigned to the Intelligent Access Module. When a User presents his / her card or keyfob at a Card Reader of an Intelligent Door using Interlocking, the following **Interlock** logic steps are performed:

1. The system checks the Interlock Group Door List.
2. The status of those member Doors that are attached and assigned to that particular Intelligent Access Module is checked.
3. The status of all other members Doors that are attached and assigned to other modules on the LAN cannot be checked by virtue of the Intelligent Access Module's Offline mode. Therefore, the "Assumed Interlock State", which has been programmed for the particular Door through which access has been requested, is applied to all other member Doors.
4. Interlock logic processing continues using actual and assumed Door status as described above.
5. Interlock Qualifying Zones and Qualifying Auxiliaries are ignored in the Offline mode.
6. Access through the Door is either granted or denied, all other permissions being satisfied.

It is therefore advantageous if system design incorporates ample contingency planning. All Doors to be used as part of an Interlock Group should, where practicable, be attached to the same Intelligent 4 Door Access Module.

The following features are not available to the Intelligent 4 Door Access Module whilst Offline:

- All Security functions
- Calculated Auxiliaries
- Function Zones
- Area Status Functions
- Reader Arming Modes
- Isolation and de-isolation of inputs
- User Counting in Areas
- Cancel on next Card / PIN entry through a Door
- DOTL and Door Forced System Inputs (DOTL Warn output will still function)
- PIN only access through Doors via Terminals not connected to the Intelligent Reader Local LAN
- TimeZone control of Auxiliaries
- Qualify Auxiliary function of TimeZones *
- User Type Valid Auxiliaries
- Home Auxiliary operation
- Diary Functions

* **Note:** Qualify Auxiliary function of TimeZones when Offline is now provided in Intelligent 4 Door Access Module Firmware V1.09 or later, providing that the Auxiliary used to qualify the TimeZone is on the same Intelligent 4 Door Access Module. The Module assumes the last known state of the Auxiliary when last on-line.

Firmware Compatibility

The Intelligent Access Module requires V3.5 or later firmware to be fitted to the Control Module. Furthermore, a suitable Memory Configuration which accommodates the use of the required number of Intelligent 4 Door Access Modules must be selected on the Control Module.

If computer software is to be used during installation or for administration of the system, this too must be of the correct version. Wdirect V3.5 and Accept V3.5 all support the Intelligent 4 Door Access Module.

LAN Isolation

The Module connects to the system LAN via a 5KV isolated section of the board. This "ISO LAN" connection provides significant on-board protection against surges to reduce the possibility that the module is damaged in addition to the Control Module and other modules in the event of a power surge.

This section of the board requires power from the LAN in addition to the Power supplied to the rest of the Intelligent Access Module board. (See Installation Notes)

Local LAN

The Intelligent 4 Door Access Module also supports a Local LAN, independent of the system LAN, to which up to eight Enhanced Elite LCD Terminals may be fitted. **No other types of module should be connected to the Local LAN as they will not operate Offline.**

Whilst in the Offline mode, each Terminal only enables PIN and Card access control across those Doors which are attached directly to the Intelligent 4 Door Access Module. Upon reinstatement of communications with the Control Module, these very same LCD Terminals inherit full functionality across the entire system.

NOTE:

1. Terminals to be used on the local LAN must be fitted with T3/4K Enhanced V1.00 or later firmware.
2. Terminals must be mapped via the "Module for Pins" Screen in Intelligent 4 Door Access Module Programming to be used in Offline mode.

Review

Whilst Online, events occurring at the Intelligent 4 Door Access Module are saved to Review on the Control Module. Whilst in the Offline mode, events occurring on each Intelligent 4 Door Access Module are recorded to Review locally on each Module.

The size of the Offline Review in each Intelligent 4 Door Access Module is equal to the size of the Control Module Review.

Presently, this is:

6,500 Events for a 512 K Memory Configuration

2,000 Events for a 128K Memory Configuration.

Once communications with the Control Module have been regained, the Review events in each Intelligent Access Module will be uploaded to the Control Module at a maximum rate of approximately one (1) event per second. This means that 6,500 events from one Intelligent Access Module will take approximately 108 minutes to upload and 6,500 events from 16 Intelligent Access Modules will take approximately 29 hours.

As events may have occurred simultaneously at the Control Module as well as each Intelligent 4 Door Access Module whilst the modules were Offline, it is quite feasible that two or more events may have been recorded to review at the same time. In addition, active events will be occurring and entries saved to Review whilst Intelligent Access Module Review is being uploaded to the panel. It is important, therefore, to note that the Control Module Review **DOES NOT SORT REVIEW EVENTS**. Review events are logged as they occur on the Control Module or as they are received by the Control Module.

To assist with Review Management, events saved to Review at the Intelligent Access Module whilst it is Offline are endorsed with a “^” character after the date to signify that they are “Historical” Review events.

eg. 24 Apr 00 ^ 10:21 Card User 0001 Granted Access at Warehouse Door 1

The rate at which Historical Review Events are uploaded to the panel may be altered in line with the number of Intelligent Access Modules present on the system. As the number of Intelligent Access Modules increases on the LAN, the rate of upload should be reduced. This, in turn, will reduce the amount of concurrent traffic on the LAN and optimise LAN performance.

The rate at which Historical Review Events are uploaded to the Control Module is programmable via the “Review Pacing” screen in Intelligent 4 Door Access Module Programming and is entered in the Hex format. Please refer to the table adjacent to the Review Pacing screen in “Intelligent 4 Door Access Module Programming” for “Recommended Review Pacing Settings”.

Zone Debounce.

In line with values on other system Modules, a Debounce time of 300mS is provided on Zone Inputs to minimize False Alarms. Intelligent 4 Door Access Module Firmware V1.09 or later now provides 600mS Zone Input Debounce time on all Door Reed and Tongue Sense Inputs to provide additional immunity on these types of Zones.

Reporting.

Important Note: Some communication formats are unable to report individual Intelligent Access Module Zones or are limited as to what they can report on each Zone. See the Tables section at the rear of this manual for Zone mapping details.

IMPORTANT NOTES:

1. When the Intelligent 4 Door Access Module is initially addressed by powering up or a LAN Initialisation, a delay of approximately 60 seconds will occur before the any programming changes are downloaded from the Control Module to the Intelligent Access Module. This delay allows all modules on large systems to properly initialise before data is transferred.
2. When programming changes are made via a Terminal, the Installer must logoff before the system will download and confirm any relevant Intelligent Access Module programming changes.
3. Most programming changes allow continued control of access through relevant Doors. However, if changes are made to Intelligent Access Module Programming and Door Programming, access through the relevant Doors will be denied until such times as the programming changes have been downloaded and confirmed.
4. Direct Entry of Cards is not available on an Intelligent 4 Door Access Module (ie. cannot enrol cards from this type of Module). Direct entry cards do, however, operate normally via an Intelligent 4 Door Access Module.
5. Card test menu does not operate from the Intelligent 4 Door Access Module.

Intelligent 4 Door Access Module Process Errors.

The following process error messages are logged to Review to indicate Intelligent 4 Door Access Module problems.

Process Error number	Description	Notes
\$1122	No Area Structure.	
\$1123	Illegal Auxiliary for Lock.	No Lock Auxiliary programmed.
\$1124	Illegal Lock Auxiliary.	Module does not exist.
\$2401	Internal error in code.	Contact the manufacturer.
\$2402	Broadcast data but no CRC structure.	Interpreter forces a download but no IRDR structure is present in the memory config.
\$2403	Broadcast CRC but no CRC structure.	Interpreter forces a download but no IRDR structure is present in the memory config.
\$2407	No Modules present.	There must be at least 1 module present to download to.
\$2423	No IRDR to broadcast to.	Module is missing.

Programming Sequence**MENU 7,2,8**

**Intelligent Rdr.
to alter: I01**

This screen allows an Intelligent 4 Door Access Module to be selected for programming. Pressing the “On” key to change modes displays whether this module is currently in the network. If the module is not in the network it will display the word “Absent” following the Intelligent 4 Door Access Module number.

**I01 Present-000
but not secure**

If the module is present, the module number is followed by the words “Present-*nnn* but not secure”, or “Present-*nnn* and secure”, depending on the LAN security status. The number (*nnn*) in the message indicates the number of times the module has failed to acknowledge a poll from the Control Module since the last LAN Init. or LAN Secure operation.

(See “Configuring the 3000/4000 LAN” for details of LAN Security)

**I01 Poll
Time: 060 sec**

This screen allows the Installer to select the maximum time a module can remain out of communication with the Control Module. Only modules in unprotected Areas should be selected with short times. Modules in protected Areas can have times set up to 255 seconds maximum. If too many modules are programmed for short times, this may slow down LAN communications.

**I01 LAN
Priority: 0**

Pressing the ON key allows the LAN Priority to be programmed between 0 and 3 for this module. LAN priority can be used to give certain modules priority over other modules when sending information to the Control Module. Priority 0 is the highest and priority 3 is the lowest. e.g. If one module was programmed for priority 0 and another programmed for priority 1 and both modules were sending information at *exactly the same time*, then the module with priority 0 would send first.

The most common programming in small systems is to leave all priorities at 0. In larger systems with many Terminals, Expanders & Access Modules; Expanders may be set to priority “3”, Access Modules to “1” and “2” and Terminals to “0”. This would give Terminals the faster response, whilst Access Modules would still have a faster response than Expanders during heavy LAN traffic.

When larger numbers of Intelligent 4 Door Access Modules are installed in a system, it is recommended to divide the total number of these Modules into 4 even groups, and assign a different LAN priority to the Modules in each group.

While implementing LAN priorities will enhance the transfer of Database changes and Review Events during periods of heavy LAN traffic, the timing implications are rarely noticeable to the end User.

**I01 Battery Test
Time: 000 min**

This screen allows the Installer to set the time period for the Dynamic Battery Test to be performed on this module. A time of 1-255 minutes is acceptable.

See “Battery Testing” in the Applications Programming section of this Manual for further details.

**I01 Review
Pacing: 00**

This screen allows the Installer to adjust the rate at which Historic Offline Review events are uploaded to the Control Module. Adjustment of this type allows optimisation of the LAN according to the number of Intelligent 4 Door Access Modules connected.

Settings are entered in the Hex format. The following table details the recommended Review Pacing setting for the particular number of Intelligent 4 Door Access Modules connected:

No. of Intelligent Access Modules	Review Pacing Setting
1	80
2	81
3	82
4	83
5	84
6	85
7	86
8	87
9	88
10	89
11	8A
12	8B
13	8C
14	8D
15	8E
16	8F

<div>I01 DT Opts -> nnnnnnnnn</div>	<p>This screen allows the Installer to select options which affect the operation of the Intelligent Access Module. Place a “Y” under the option to enable it.</p>
<div>D Detail Review</div>	<p>This option enables detail review when the module is Offline. If set to no, The Module will limit the type of events saved to review whilst it is Offline.</p>
<div>T Tongue Sense</div>	<p>If enabled, this option will cause the Tongue Sense input for each and every door programmed on the Intelligent Access Module to be used with the reed input for DOTL, Door Forced and Interlock functions if Interlocking is set for Tongue Sense.</p>
<div>I01 Door #1 D000</div>	<p>This screen is used to specify which Door is assigned to the first Door position on this Intelligent 4 Door Access Module.</p>
<div>I01 Door #2 D000</div>	<p>This screen is used to specify which Door is assigned to the second Door position on this Intelligent 4 Door Access Module.</p>
<div>I01 Door #3 D000</div>	<p>This screen is used to specify which Door is assigned to the third Door position on this Intelligent 4 Door Access Module.</p>
<div>I01 Door #4 D000</div>	<p>This screen is used to specify which Door is assigned to the fourth Door position on this Intelligent 4 Door Access Module.</p>

Card Reader Programming

This section of the manual describes the manner in which Card Readers are programmed. Repeat this section for each Card Reader that is attached to the Intelligent 4 Door Access Module.

**I01 Format Rdr1>
None**

This screen allows selection of the format to be used by Card Reader #1.
Use the Right Arrow Key to scroll through the available options.

Format	Description
None	This setting disables the Reader Input.
Swipe	Selects a magnetic Card swipe Reader. All digits between the start sentinel and up to and including the 1st separator are read. Also used for MR Access Model 6AT1B Swipe Reader with Keypad. (V4.5 or later)
Swipe Last*	Selects the swipe Last format for a magnetic swipe Card Reader. Swipe Last is similar to the Swipe format, except that instead of returning the first 30 characters of a swiped Card, it returns the last 30 characters of the Card. <i>See notes below.</i>
Insertion	Selects an insertion style magnetic Card Reader. All digits between the start sentinel and up to and including the 1st separator are read.
Nbit Wiegand	Selects any Wiegand type Reader with the Reader automatically detecting the number of bits. If the number of bits is known for the Reader then select one of the options below for better noise immunity.
26 bit Wiegand	Selects a Wiegand Reader which outputs 26 bits including the start bit and stop bit.
27 bit Wiegand (Indala) SC = 0 to 8191	Selects a Wiegand Reader which outputs 27 bits including the start bit and stop bit. If used with Single or 2 Door Access Modules they must be: -Type 2 (995011 / 995012) or -Type 1, Version 7 or later, fitted with at least V11 firmware. (Use Nbit Wiegand on earlier version Readers if cards are 27 bit Wiegand.)
30 bit Wiegand	Selects a Wiegand Reader which outputs 30 bits including the start bit and stop bit.
32 bit Wiegand	Selects a Wiegand Reader which outputs 32 bits including the start bit and stop bit.
34 bit Wiegand	Selects a Wiegand Reader which outputs 34 bits including the start bit and stop bit.
36 bit Wiegand	Selects a Wiegand Reader which outputs 36 bits including the start bit and stop bit.
37 bit Wiegand	Selects a Wiegand Reader which outputs 37 bits including the start bit and stop bit.
40 bit Wiegand	Selects a Wiegand Reader which outputs 40 bits including the start bit and stop bit.
Nbit Fast	Identical to Nbit Wiegand, except that it processes cards approximately 200ms faster. This format should be used in preference to Nbit Wiegand except in rare circumstances where very slow Wiegand data is being read. If used with Single or 2 Door Access Modules they must be: -Type 2 (995011 / 995012) or -Type 1, Version 9 or later, fitted with at least V12 firmware.
Proxpin	This format is identical to Nbit Fast except that keys pressed from an HID5355, Keri P-600 or Indala ARK-501 keypad can be buffered and sent as Wiegand data. If used with Single or 2 Door Access Modules they must be: -Type 2 (995011 / 995012) or -Type 1, Version 9 or later, fitted with at least V12 firmware.

**I01 Mode Rdr1 ->
Credit Card**

This screen allows selection of the mode to be used by Card Reader #1.
Use the Right Arrow Key to scroll through the available options.

Credit Card

This setting is used for magnetic swipe or insertion credit Cards. Users that use this Reader must be programmed as a "Credit Card" User (See User Programming)

Direct Entry

This setting is used for Wiegand format type Cards where the Site Code or Card numbering system is unknown. Users that use this Reader must be programmed as "Direct Entry" Users. (See User Programming)

Site Code

This setting is used for:

-Inner Range 3000/Access 4000 Magnetic Swipe Card format.

-Wiegand formats where the Site Code and Card numbering system is known.

Note: Site Code processing is currently supported in 26 Bit, 27 Bit (Indala) and 34 Bit Wiegand formats.

Users that use this Reader must be programmed as "Site Code" Users. (See User Programming)

The actual Site Codes are programmed and enabled in the Access Menu, and the way the Site Code is stored on the Card is selected as the Site Code method in General System Options programming.

Any Card

This setting is used to allow any credit card to grant access and save the account number to review.

For this option to function, "Swipe" format must be selected.

NOTE:

Cards cannot be directly "Read" into the system using an Intelligent Reader. A standard Reader Module must be used for this purpose and the Reader number programmed in General System Options. [MENU 7, 5, 1]

**I01 Arming Rdr1>
None**

This option sets the Arming Mode for the associated inside, outside or extra Area, dependent on the User permissions set and the Door programming. Use the Right Arrow Key to scroll through the available options.

See Arming Mode options below as well as User, User Type and Door Programming for further details.

None

No Reader Arming.

Extra Area if Z8

User's Extra Area will arm if Zone 8 is Unsealed.

Exit Area if Count=0

Door Area you are leaving will arm if Area Count equals zero.

Exit Area if Z8

Door Area you are leaving will arm if Zone 8 is Unsealed.

Entry Area if Z8

Area on the other side of the Door will arm if Zone 8 is Unsealed.

Exit Area if 3 swipes

Door Area you are leaving will arm if Card presented 3 times in succession.

Entry Area if 3 swipes

Area on the other side of the Door will arm if Card presented 3 times in succession.

I01 Extra Area Off, Rdr1: n

This screen, if set to "Y", causes the User's Extra Area to be turned Off instead of the door Area they are about to enter.

(The "E" xtra Area Off option must be set to "Yes" in User Programming for a User to use this feature and the User must have access through this Door).

See "Reader Area Control" in the Applications Programming section for more details.

I01 Loc. Rdr1 -> Outside, Door #1

This screen allows the location of the first Reader head to be chosen by using the Right Arrow Key. The reader location will be either inside or outside one of the four Doors connected to the Intelligent Access Module. **Door #1, #2 etc refers to those Doors as programmed in Intelligent 4 Door Access Module programming only and may not correspond to Door numbers in general Door Programming.**

Outside, Door #1	Located on the Outside of Door 1.
Outside, Door #2	Located on the Outside of Door 2.
Outside, Door #3	Located on the Outside of Door 3.
Outside, Door #4	Located on the Outside of Door 4.
Inside, Door #1	Located on the Inside of Door 1.
Inside, Door #2	Located on the Inside of Door 2.
Inside, Door #3	Located on the Inside of Door 3.
Inside, Door #4	Located on the Inside of Door 4.

I01 Rdr1 Module for Pins: T000

This screen specifies which LCD Terminal is to be used for keying in PIN codes when access requires Card & PIN. A different LCD Terminal may be specified for each of the 8 possible Card Readers.

It is recommended that all "Alarm Message Types" are set to "NO" for LCD Terminals used in Access Control operations unless it is necessary for alarms to be displayed on them.

I01 Keys Rdr1 -> LCD Term

This screen allows selection of the type of keypad or Terminal from which the PIN number is to be obtained when "Card and PIN" operation has been specified.

LCD Term	Get PIN from a 3000/4000 LCD Terminal
LED Term	Get PIN from a 3000/4000 LED only keypad
ARK-501	Get PIN from an Indala Ark-501 or Keri P-600 PIN Plus Proximity Reader.
HID5355	Get PIN from a HID5355 PIN Plus Proximity Reader.
MR Access	Get PIN from an MR Access Model 6AT1B Magnetic Swipe Plus PIN code Reader.

The Card Reader Programming section of this Manual is repeated for each of the eight (8) possible Card Readers that can be attached to the Intelligent Access Module. When all Card Readers have been programmed, continue from this point.

NOTES:

- 1) **HID5355.** If an “HID5355” Proximity and PIN Reader is used, ensure the HID Reader part number is 5355xxK00. The last 3 characters must be K00 for correct keypad option and PIN code buffering. (xx=Revision and colour options which will not affect operation)
- 2) **Keri P-600.** If a “Keri P-600” Proximity and PIN Reader is used, the Reader must be configured for “8-bit Burst” mode via the following 2 steps:

i) Present the Keri Wiegand Keypad Data Mode control card to the Reader. The Reader beeps 4 times and then enters Site Code programming mode.

ii) Press the “#” key. (This switches the reader to 8-bit Burst mode) The Reader beeps 4 times to indicate programming mode has ended.
- 3) **MR Access Model 6AT1B. (V4.5 or later).**
If an “MR Access 6AT1B” Reader is used, the Reader must be configured to send a 4 digit PIN as a single packet.
The related options are programmed as follows:

MENU, 7, 2, 4	Reader Format:	Swipe.
	Reader Mode:	Site Code.
MENU, 7, 5, 1	Site Code Type:	General.
	General Site Total Bits:	00
	Site Size / Offset:	As required.
	User Size / Offset:	As required.
- 4) When using the “Proximity Plus PIN code” Readers (HID5355, ARK-501, Keri P-600 & MR Access), only the “Card + PIN” and “Card Only” operations are supported.
i.e. “PIN Only” operation is not supported.

Offline Door Configuration

This section of programming allows the Installer to pre-define a number of “Assumptions” that the system will make whilst Offline. These assumptions relate to the Inside and Outside Area status of the Areas that are assigned to a particular Door as well as the status of other Doors in the same Interlock group.

This section of programming is Door specific and is repeated for each of the four (4) possible Doors attached to the Intelligent 4 Door Access Module.

I01:D1 Inside ->
Area State: Off

- | | |
|------|--|
| Off | If set to OFF, any User with this Door in their Door List will be allowed access. |
| On | If set to ON, only Users with this Door in their Door List and the Inside Area in their Area Off List will be allowed access through the Door. |
| Deny | If set to Deny, no User will be allowed through the Door, regardless of their permissions. |

**I01:D1 Outside->
Area State: Off**

This screen determines the Offline state of the Outside Area that is assigned to the Door in Door programming. The Offline Area state is only applicable if an Area has been assigned to the Door.

Off	If set to OFF, any User with this Door in their Door List will be allowed access.
On	If set to ON, only Users with this Door in their Door List and the Inside Area in their Area Off List will be allowed access through the Door.
Deny	If set to Deny, no User will be allowed through the Door, regardless of their permissions.

**I01:D1 Ilock ->
State: Closed**

This screen determines the assumed Offline Interlock state for the particular Door. The Offline state is only applicable if an Interlock group has been programmed for this Door.

Closed	If set to Closed, any Door used in the Interlock equation that is attached to a module other than the module to which this Door is attached will be assumed as being always closed.
Open	If set to Open, any Door used in the Interlock equation that is attached to a module other than the module to which this Door is attached will be assumed as being always open. This effectively denies access through this Door.

The Offline Door Configuration section of this Manual is repeated for each of the four (4) possible Doors that can be attached to the Intelligent Access Module. When all Doors have been programmed, Intelligent 4 Door Access Module Programming is complete.

Zone Inputs

Zone Input	Description
Inn:Z01	General Purpose Zone 1
Inn:Z02	General Purpose Zone 2
Inn:Z03	General Purpose Zone 3
Inn:Z04	General Purpose Zone 4
Inn:Z05	General Purpose Zone 5
Inn:Z06	General Purpose Zone 6
Inn:Z07	General Purpose Zone 7
Inn:Z08	General Purpose Zone 8
Inn:Z09	Door #1 Reed Input
Inn:Z10	Door #2 Reed Input
Inn:Z11	Door #3 Reed Input
Inn:Z12	Door #4 Reed Input
Inn:Z13	Door #1 Tongue Sense Input
Inn:Z14	Door #2 Tongue Sense Input
Inn:Z15	Door #3 Tongue Sense Input
Inn:Z16	Door #4 Tongue Sense Input

Auxiliary Outputs

Auxiliary Outputs	Description
Inn:X01	Door #1 Lock Relay
Inn:X02	Door #2 Lock Relay
Inn:X03	Door #3 Lock Relay
Inn:X04	Door #4 Lock Relay
Inn:X05	Spare
Inn:X06	Spare
Inn:X07	Spare
Inn:X08	Spare
Inn:X09	Auxiliary 9
Inn:X10	Auxiliary 10
Inn:X11	Auxiliary 11
Inn:X12	Auxiliary 12
Inn:X13	Auxiliary 13
Inn:X14	Auxiliary 14
Inn:X15	Auxiliary 15
Inn:X16	Auxiliary 16

System Inputs

System Inputs	Description
Inn:S01	Door #1 Lock Tamper
Inn:S02	Door #2 Lock Tamper
Inn:S03	Door #3 Lock Tamper
Inn:S04	Door #4 Lock Tamper
Inn:S05	Door #1 Forced
Inn:S06	Door #2 Forced
Inn:S07	Door #3 Forced
Inn:S08	Door #4 Forced
Inn:S09	Door #1 DOTL
Inn:S10	Door #2 DOTL
Inn:S11	Door #3 DOTL
Inn:S12	Door #4 DOTL
Inn:S13	Door #1 Invalid Card (in or out)
Inn:S14	Door #2 Invalid Card (in or out)
Inn:S15	Door #3 Invalid Card (in or out)
Inn:S16	Door #4 Invalid Card (in or out)
Inn:S17	Cabinet Tamper
Inn:S18	General Lock Fault
Inn:S19	Battery Test Fail
Inn:S20	AC Fail
Inn:S21	Low Battery
Inn:S22	LAN Fuse
Inn:S23	Detector Fuse
Inn:S24	LAN Comms Status

Analogue Module Programming (V3 or later)

The Analogue Module is identified by the letter “Q” followed by the module number (eg. Q01). It serves to interface analogue quantities such as temperatures or other variable levels into the 3000/4000 system. The module provides 4 analogue inputs, two on/off type zones without tamper/fault monitoring and four Auxiliary outputs.

The Analogue Module may be programmed such that when an analogue level exceeds or drops below a pre-programmed trigger point an alarm/seal/tamper event is generated. The current analogue value of each input can also be viewed in scaled units at any Terminal or remotely via an externally connected device.

The method by which the state of the Input varies in relation to the Input value is dependent upon the “Calibration String” and the mode in which the device or sensor is operating. This is described in more detail below.

A small hysteresis applies to each Trigger Point to avoid “state chatter”.

Important Notes:

- 1) **Serial Temperature Sensors or other devices MUST be connected to the appropriate Inputs, and the correct Jumper links set, before the module is powered up. The action of powering up the module with the sensors attached will allow the Analogue Module to detect the type of sensor connected.**
- 2) **The analogue inputs on the standard Module (P/N: 994088 or 995088) are configured for Voltage mode operation. For Current loop mode, the Current Loop version of the Module should be purchased (995088C) or the modification described under “Mode 0” must be performed on the required Inputs.**

Calibration Strings.

The Calibration String is chosen to allow arbitrary, 4 digit scaled values to be chosen for each analogue Input. The Calibration String also takes into account rounding errors and resolution in order to keep introduced errors to a minimum. Scaled value must be chosen as four significant digits with a choice of 0, 1, 2 or 3 decimal places. This should allow adequate choice of values in engineering units.

The Calibration string is read as follows: ABCCCCCCCCC

A = Mode selection. 0, 1, 2, 3, 4 or 5.

B = Decimal places for display.

C = Calibration string for particular device, measurement range, etc.

e.g. The Calibration String used for the Serial Temperature Sensor in Mode2 with 2 digit display and temperature range of 0 to 31.5 degrees is: 2214FA000000

Operational Modes.

Mode 0 is used for Analogue sensor devices providing 0 - 5V or 4 - 20mA current loop output.

Use the 995088C Version of the Module if Current Loop monitoring is required on all 4 Inputs.

Modes 1, 2 and 3 are used with the Serial Temperature Sensor and are essentially the same in operation. i.e:

- Only the “Trigger 1” value can be programmed for each zone.
- Zone is in Alarm when temperature is above the Trigger 1 value, but below the upper limit.
- Zone is Sealed when temperature is below the Trigger 1 value, but above the lower limit.
- Zone is in Tamper when temperature is outside the lower or upper limits.
- A calibration string is required for each Zone you intend to process, regardless of whether or not a sensor is physically connected to the Zone.

The difference between Modes 1, 2 and 3 is the number of Zones assigned to each Temperature Sensor:

In Mode 1, each Temperature Sensor is assigned 1 Zone Input.

In Mode 2, each Temperature Sensor is assigned 2 Zone Inputs.

In Mode 3, each Temperature Sensor is assigned 4 Zone Inputs.

Modes 4 and 5 are used with the Serial Temperature Sensor and provide 2 Trigger values for each zone. The difference between the two modes is the temperature range available. Mode 4 requires Analogue Module Firmware V1.05 or later, Mode 5 requires Analogue Module Firmware V1.09 or later and Control Module Firmware V4 or later.

Each of the 6 Modes are detailed on the following pages.

Reporting

Important Note: Some communication formats are unable to report individual Analogue Zones or are limited as to what they can report on each Zone. See the Tables section at the rear of this manual for Zone mapping details.

Mode “0”

In this mode each Sensor is attached to one Analogue Input. The Input utilises one positive Trigger Point and operates on a positive scale from 0 to 5 volts. Alternatively, any analogue quantity can be interfaced to the Analogue Module provided it is translated to a 0-5 volt full scale deflection at the analogue input.

4-20mA CURRENT LOOP:

For monitoring a 4-20mA Current loop, the Current Loop must be translated to a 0 to 5 Volt Input signal by the Module. This is done by substituting the 10 kOhm Input Resistor with a 250 Ohm 1% 1/4W Resistor on each Input where Current Loop monitoring is required.

<u>Input:</u>	<u>Resistor to be changed:</u>
1	R23
2	R24
3	R25
4	R26

This modification should only be performed by a qualified technician.

The 995088C Version of the Module is supplied with this modification already fitted on all 4 Inputs.

The status of the Input varies as follows:-

Input Status	Unit Value Range
Tamper	< 2
Seal	2 to Trigger Value
Alarm	Trigger Value to 253
Tamper	> 253

The tamper state should only ever be used to indicate a fault condition.

A hysteresis of ± 1 unit has been implemented at the Trigger Value.

Each Analogue Module can accommodate up to 4 Devices each using a single Mode “0” Input.

Mode “1”

This mode is specifically designed for the 994089 Serial Temperature Sensor. In this mode each Sensor is attached to one analogue Input allowing for 4 individual Temperature Sensors to be connected to the Module. This means that 4 separate temperatures can be displayed &/or processed via a single Analogue Module. (Qxx:Z01 to Qxx:Z04)

Each analogue Input utilises one positive Trigger Value and operates on a positive temperature scale of **0° to 31° Celsius**.

Recommended Calibration String = 1214FA000000

Note: Ensure the jumpers on the Analogue Module have been set correctly for use with the 994089 Serial Temperature Sensor and the sensor is connected before power up of the Analogue Module. (Refer to the Analogue Module Installation Instructions for details).

The status of the Input varies as follows:-

Input Status	Temp Range
Tamper	< 0.5°
Seal	0.5° to Trigger Value
Alarm	Trigger Value to 31°
Tamper	> 31.5°

The tamper state should only ever be used to indicate a fault condition.

In this Mode, each Analogue Module can accommodate up to 4 independent Serial Temperature Sensors.

Mode “2”

This mode is specifically designed for the 994089 Serial Temperature Sensor. Mode 2 uses one Sensor attached to Input 1 and/or Input 3 and allows for 2 Inputs to utilize a single Sensor. The Sensor connected to Input 1 will have it's value automatically mirrored to Input 2. (Qxx:Z01 and Qxx:Z02 will register the same temperature) The Sensor connected to Input 3 will have it's value automatically mirrored to Input 4. (Qxx:Z03 and Qxx:Z04 will register the same temperature)

Recommended Calibration String = 2214FA000000.

This configuration allows two trigger points per Temperature Sensor with two independent Zone Inputs representing the two Trigger points. e.g.

- 1) The trigger points could be used as a HIGH Trigger and a LOW Trigger to control an air-conditioner on and off.
- 2) The trigger points could be used to provide two different functions from a single Sensor. One Zone could trigger at 24 degrees to turn airconditioning on , while the other Zone could trigger at 16 degrees to turn a heater on.

NOTE: Ensure the jumpers on the Analogue Module have been set correctly for use with the 994089 Serial Temperature Sensor and the sensor is connected before power up of the Analogue Module. (Refer to the Analogue Module Installation Instructions for details).

The status of the Inputs vary as follows:-

Input Status	Temp Range
Tamper	< 0.5°
Seal	0.5° to Trigger Value
Alarm	Trigger Value to 31°
Tamper	> 31.5°

The tamper state should only ever be used to indicate a fault condition.

In this manner, each Analogue Module can accommodate up to 2 Serial Temperature Sensors, each using 2 Mode “2” Inputs. (Inputs are paired with each temperature sensor utilising Inputs 1&2 and Inputs 3&4 respectively.)

Mode “3”

This mode is specifically designed for the 994089 Serial Temperature Sensor. Mode 3 uses one Sensor attached to Input 1 and allows for 4 Inputs to utilize a single Sensor. The Sensor connected to Input 1 will have it's value automatically mirrored to Inputs 2, 3 & 4. (Qxx:Z01, Qxx:Z02, Qxx:Z03 and Qxx:Z04 will all register the same temperature).

Recommended Calibration String = 3214FA000000.

This configuration allows four trigger points per Temperature Sensor. e.g.

- 1) Two of the trigger points (e.g. Set to 18 degrees and 25 degrees) could be used to control air-conditioning and/or heating appliances, while the other two trigger points (e.g. Set to 12 degrees and 28 degrees) could be used to monitor and report when temperatures go outside an acceptable range due to equipment failure.
- 2) Two trigger points could be used as Mid 1 and Mid 2 Triggers, the other two as High and Low Triggers.

NOTE: Ensure the jumpers on the Analogue Module have been set correctly for use with the 994089 Serial Temperature Sensor and the sensor is connected before power up of the Analogue Module. (Refer to the Analogue Module Installation Instructions for details).

The status of the Inputs vary as follows:-

Input Status	Temp Range
Tamper	< 0.5°
Seal	0.5° to Trigger Value
Alarm	Trigger Value to 31°
Tamper	> 31.5°

The tamper state should only ever be used to indicate a fault condition.

In this manner, each Analogue Module can accommodate 1 Serial Temperature Sensor using all 4 Mode “3” Inputs. (Inputs must be grouped as Inputs 1,2,3&4.)

Mode “4” and Mode “5”

These modes are specifically designed for the 994089 Serial Temperature Sensor. Modes 4 & 5 can operate with one to four Temperature Sensors connected to an Analogue Module. One Temperature Sensor can be connected to each individual analogue Input.

Each Input, however, offers the ability to programme two Trigger Values. The first Trigger Value is the Mean value of the desired range. The second Trigger Value is the Dead band. The deadband value determines the scope of the range. (ie. Maximum desired value to Minimum desired value).

This configuration allows the Installer to programme a HIGH Trigger Value and a LOW Trigger Value for each Input, enabling up to 4 Serial Temperature Sensors to be connected to an Analogue Module.

e.g. If a mean temperature of 22 degrees and a deadband of 4 degrees is programmed, then the Zone will go into alarm at 24 degrees +/-0.5 and will Seal at 20 degrees +/- 0.5. The Zone will be in the Tamper state when the temperature is within the deadband.

IMPORTANT NOTES:

- 1) Ensure the jumpers on the Analogue Module have been set correctly for use with the 994089 Serial Temperature Sensor and the sensor is connected before power up of the Analogue Module. (Refer to the Analogue Module Installation Instructions for details).
- 2) Mode 4 requires Analogue Module Firmware V1.05 or later.
- 3) Mode 5 requires Analogue Module Firmware V1.09 or later and Control Module Firmware V4 or later.

The status of the Inputs vary as follows:-

	Mode 4	Mode 5 (V4 or later)
Recommended Calibration String	4214FA000000	5205FA6E0000
Input Status	Temperature Range	Temperature Range
Seal	0° to (T1 - T2/2)	-55° to (T1 - T2/2)
Tamper	(T1 - T2/2) to (T1 + T2/2)	(T1 - T2/2) to (T1 + T2/2)
Alarm	(T1 + T2/2) to 31.5°	(T1 + T2/2) to 70°

T1 = Trigger1 Value

T2 = Trigger2 Value

A tamper signal will not be returned in these modes for cases where the temperature sensor exhibits full deflection.

i.e. In Mode 4 at the 0° Celsius and 31° Celsius ends of it's range.

In Mode 5 at the -55° Celsius and 70° Celsius ends of it's range.

Each Analogue Module can accommodate up to 4 Serial Temperature Sensors, each using a single Mode “4” or Mode “5” Input with two Trigger Values.

**Analog Module to
alter: Q01**

This screen allows an Analogue Module to be selected for programming. A module may be selected by either using the UP and DOWN Arrow Keys or entering the module number directly using the DIGIT Keys.

**Q01 Present-000
but not secure**

Pressing the ON Key to change modes will tell the installer whether the module is currently in the network. If the module is not in the network, it will display the word "Absent" following the Analogue Module number. If the module is present, the Analogue Module number is followed by the words "Present-nnn but not secure" or "Present-nnn and secure", depending upon the LAN security status. The number (nnn) denotes the number of times the module has failed to acknowledge a message from the Control Module since the last LAN Init. or LAN Secure operation. (See "Configuring the Model 3000/Access 4000 LAN" for further details.)

Press the OK Key to proceed to the next screen.

**Q01 Poll
Time: 060 sec**

This screen allows the Installer to specify the maximum time this module can be out of communication with the Control Module. Only modules in unprotected Areas should be programmed with short times. Modules in protected Areas can have times set up to 255 seconds maximum. If too many modules are programmed for short times, LAN communications may slow down.

**Q01 LAN
Priority: 0**

Pressing the ON Key allows the LAN Priority to be programmed between 0 and 3 for this module. LAN Priority can be used to give certain modules priority over other modules when sending information to the Control Module. Priority 0 is the highest priority and priority 3 is the lowest. For example, if a module was programmed for priority 0 and another module was programmed for priority 1 and both modules were sending information at *exactly the same time*, the module with priority 0 would send its message first.

The most common programming in small systems is to leave all priorities at 0. In larger systems with many Terminals, Zone Expanders, Readers and Analogue Modules, the Analogue Modules may be set to Priority 3, Zone Expanders to Priority 2, Readers to Priority 1 and Terminals to Priority 0. This would give Terminals the fastest response, while Readers would still have a faster response than Expanders during heavy LAN traffic. Analogue Modules to be used for basic air-conditioning purposes would only require a low priority of 3 but this may be reviewed if the Analogue Module was to be used to monitor more important applications.

**Q01 Auto Update
Time: 060 min**

This screen allows the Installer to set the time in minutes between each Analogue Module update. This is the time that each programmed input will log its current value to review.

**Q001 1234....
Opts -> nnnnnnnn**

This screen allows the Installer to specify which analogue Inputs, if any, are to log their values to review each time the Auto Update timer above expires. eg. A "Y" under "1" means that analogue Input number 1 will have its value recorded to review each time the Auto Update timer, as set in the previous screen, expires. This allows the system to act as a recorder, logging periodic analogue Input values which can be reported or printed etc. via a Comms Task.

Q01:Z01 Trigger1
Value: \pm ?

This screen will be displayed next. Programming of Trigger Values is explained later in this chapter. However, in the interest of efficiency, it is recommended that the Calibration String be programmed first.

Q01:Z01 Calib:
000000000000

Easy Tip:

The easiest and most efficient manner in which to programme the Analogue Module is to skip all the Trigger Value screens for the moment by repeatedly pressing the OK Key until the Calibration String programming screen is displayed.

Explanation:

The first digit of the Calibration String sets the Mode of the Analogue Module. This determines the number of Trigger points and the manner in which they will be used. If the Calibration String is altered after the Trigger Value is programmed, the Trigger Value may not reflect the value previously set.

Q01:Z01 Calib:
000000000000

These screens allow each input to be scaled and calibrated via a special calibration string entered in HEX format. This screen is altered by the Installer according to technical notes which should accompany each transducer being connected to an analogue Input.

Q01:Z02 Calib:
000000000000

Use the DIGIT Keys to enter the specific Calibration String for your device. Press the OK Key to proceed to the next screen.

etc.

A Calibration String must be entered for each programmed Input.

A separate screen is displayed for each of the four analogue inputs.

Analogue Module to
alter: Q01

When all Calibration Strings have been entered, the screen will return to the very first Analogue Module programming screen. Move through the Analogue Module programming structure again using the OK Key until the first Trigger Value screen is displayed.

Q01:Z01 Trigger1
Value: \pm 0000

The pre-programmed Calibration String will determine the appearance of these screens and the format in which the value is to be entered.

Q01:Z02 Trigger1
Value: \pm 0000

Use the "9" Key to toggle between the "+" and "-" sign and enter the value via the DIGIT Keys. No decimal point is entered. The position of the decimal point is assumed as per the display format configuration setting contained within the calibration string (ie. + 0255 will be interpreted as either 255, 25.5, 2.55 or 0.255 depending upon the calibration string).

etc.

For example; A Serial Temperature Sensor input operating in Mode 1 will only accept Trigger1 Value. Furthermore, as per the sensor instructions, the Trigger Value is to be entered in Degrees Celsius and two decimal places are assumed.

The Trigger Value screens for those inputs with valid Calibration Strings will now have changed. The value displayed reflects the full scale value in units of measure appropriate to the type of sensor. The virtual position of the decimal point will be as set by the Input's Calibration String.

In the case of the 994089 Serial Temperature Sensor, 0000 will be displayed. Desired values are entered in ° Celsius, the valid range being from 0° to 31.5°.

Enter Trigger Values for those of the four analogue Inputs that are to be used. Make note of the mode in which the sensors will be operating as this will affect the number of usable Trigger Values on each Input and the sensor to which each Input refers.

Q01:Z01 Trigger2
Value: + 0000

Q01:Z02 Trigger2
Value: + 0000

etc.

This screen allows the Installer to specify the second Trigger Value for this Input. This Trigger Value applies only to Sensors used in Mode 4 or Mode 5. **In any other mode, any value entered in this field will be ignored.** The status of the Zone will change as per the Mode description.

Use the "9" Key to toggle between the "+" and "-" sign and enter the value via the DIGIT Keys. No decimal point is entered. The position of the decimal point is assumed as per the display format configuration setting contained within the calibration string (ie. + 0255 will be interpreted as either 255, 25.5, 2.55 or 0.255 depending upon the calibration string).

Similar screens are used to programme Trigger Values for the remaining 3 analogue Inputs, if required. Programme their values in the same manner as above.

Putting it all together

When all analogue Inputs have been programmed, the Installer can set about programming the Calculated Auxiliaries, Function Zones, Inputs or Areas. These features provide the output or automation which is to occur as a result of the changes of state of the analogue Inputs.

A LAN Initialize [MENU 7,8,2] or LAN Secure [MENU 7,8,1] must be done once all changes have been made. Refer to the relevant sections of this manual for further information.

Testing

Zone testing works as for other modules, with the screen showing the seal/alarm/tamper status according to the pre-programmed Trigger Values and the Mode being used.

Analogue Input values may be read via MENU 1, 3. This procedure also has the same effect as performing a LAN Init or the specific Analogue Module.

Viewing Analogue Values

MENU 1,3 allows the selected analogue Input to be viewed in scaled units. The Arrow Keys allow other Inputs to be viewed if desired. Whenever a module is selected for viewing, that module will automatically report the latest analogue value every two seconds to the Control Module so that the most up to date value may be viewed. If a module cannot report its latest value for any reason, the display will show "?????". One reason may be that the module is absent.

This screen will automatically time-out after 2 minutes.

Reporting Formats

Analogue Module Inputs do not currently report on Contact ID or Securitel format.

LAN Power Supply Module Programming

Power Module programming is used to program LAN Power Supply Modules.

Reporting

Reporting of LAN Power Supply Module Zone Inputs and System Inputs will depend on the Communications format. Some formats will only report LAN Power Supply Module alarms as General Area Alarms.

Check the Reporting format details in the Tables section of the Programming Applications and Reference Manual. Refer to Tables with a Revision of V4.5 or later.

Calibration

LAN Power Supply Modules are calibrated at the factory during the manufacturing process. The Module does not normally require any further calibration unless the Module's firmware is upgraded, or a repair has been carried out that required components to be replaced.

Any Firmware upgrade or repair work performed by the manufacturer will also include re-calibration of the Module.

In the rare event of a firmware upgrade being performed in the field, a calibration procedure is available from the Distributor. The following equipment is required to perform the calibration procedure:

- A Digital Multimeter capable of measuring 0 to 20V DC and 0 to 1999mA DC.
- Dummy load. 10 to 15 Ohms. 15W. e.g. 12V, 15Watt Automotive lamp.
- Heavy guage (14/020) test leads for connection of Dummy load and Multimeter.

**Power Module to
alter: P01**

**P01 Present-000
but not secure**

This screen allows a LAN Power Supply Module to be selected for programming. Pressing the <ON> key to change modes tells the Installer whether this module is currently in the network. If the module is not in the network it will display the word "Absent" following the Module number. If the module is present, the Module number is followed by the words "Present-nnn but not secure", or "Present-nnn and secure", depending on LAN security status.

The number (nnn) in the message indicates the number of times the module has failed to send an Acknowledge message to the Control Module since the last LAN Initialisation or LAN Secure operation.

(See "Configuring the Model 3000/Access 4000 LAN" for details of LAN Security)

**P01 Poll
Time: 240 sec**

This screen allows the Installer to specify the maximum time a module can remain out of communication with the Control Module. Only modules in unprotected Areas should be selected with short times. Modules in protected Areas can have times set up to 250 seconds maximum. If too many modules are programmed for short times then this may slow down LAN communications.

Note: Poll Time should NOT be set to a value in the range of 000 to 005.

**P01 LAN
Priority: 0**

Pressing the <ON> key allows the LAN Priority to be programmed between 0 and 3 for this module. LAN Priority can be used to give certain modules priority over other modules when sending information to the Control Module. Priority 0 is the highest priority and priority 3 is the lowest. For example, if a module was programmed for priority 0 and another module was programmed for priority 1 and both modules were sending information at *exactly the same time*, then the module with priority 0 would be sent first.

When programming small systems the priority of all modules are most commonly set to 0. In larger systems with many Terminals and/or Reader Modules and Zone Expanders; the Terminals and Reader Modules would be left at Priority 0, while LAN Power Supply Modules, Zone Expanders, etc. may be set to Priority 1. This gives the Terminals and Readers a faster response than Expanders, etc. during heavy LAN traffic.

**P01 Battery Test
Time: 000 min**

This screen allows the Installer to programme the duration of the Dynamic Battery Test for this module. Dynamic Battery Testing is a feature of Diary Programming. A Diary event may be used to initiate a Battery Test on all Modules within the system. The test is performed on each programmed module in turn. The duration of such a Battery Test is individually programmable from one module to the next for periods ranging from 0 (No test) to 255 minutes. Battery life will be dependent upon current consumption.

For further details on Dynamic Battery Testing and recommended Battery Test Times, refer to "Battery Testing" in the Applications Programming section and also "Diary Programming" in the Programming Reference section.

P01 12.....
Opts -> nnnnnnnn

This screen allows the Installer to select options for the Auxiliary Outputs on the LAN Power Supply Module.

- 1 Invert Auxiliary 1

2 Invert Auxiliary 2
- If set to “Y”, the operation of Auxiliary 1 will be inverted.

If set to “Y”, the operation of Auxiliary 2 will be inverted. Normally set to “Y” when a Satellite Siren is connected to this output. *See Note below.*

IMPORTANT NOTE: Auxiliary 2 is not an Open Collector output. It provides a switched +12V output via an on-board relay and can therefore be used to control a Battery-backed Satellite Siren or other similar controlled device.

- When used for controlling a Battery-backed Satellite Siren, the 12V output normally needs to be present when the Auxiliary is Off, and removed when the Auxiliary is On. Therefore, the “2” option must be set to “Y”.

- When controlling a device such as a Strobe or Piezo Siren (where the 12V output needs to be present when the Auxiliary is ON) the “2” option must be set to “n”

P01 Number of
Slaves: 0

This screen allows the Installer to specify the number of Slave Modules connected to a Master LAN Power Supply Module. Up to 3 Slave Modules can be connected.

The default setting of 0 indicates that no Slave Modules are connected and disables the Slave Fail System Input (Pxx:S14) for this LAN Power Supply Module

Slave Modules are connected to provide additional Battery charging current AND/OR Detector current on a LAN Power Supply Module. This is done by connecting additional “Slave” LAN Power Supply Modules to the 2-wire Slave Bus connection provided, and connecting the “+B” and “DET+” outputs of the Slave Module to the “+B” AND/OR “DET+” output of the Master Module.

- IMPORTANT NOTES:**
- 1) Both the Master and Slave Modules must be the Enhanced version of the LAN Power Supply Module.

2) Slave Module DIPswitch settings. (SW1)

Switch 8:	ON = Slave. (OFF = Master)		
Switch 5 & 6:	Slave Mode	Switch 5	Switch 6
	Split Mode	OFF	OFF
	Charger Only	ON	OFF
	Power (DET+) Only	OFF	ON
Switches 1 & 2:	Slave Number.	Switch 1	Switch 2
	1	OFF	OFF
	2	ON	OFF
	3	OFF	ON

See the Installation Manual for wiring information and additional details.

P01 Aux2 Tamper
Current: 25 mA

This screen allows the Installer to specify the minimum current required to prevent a Satellite Siren Tamper Alarm condition. The value can be set from 20 to 50mA in 1mA increments. The default value of 00 means that Aux2 Tamper current is not monitored.

NOTE: Any value less than “20” disables Aux2 Tamper current monitoring.

**P01 Batt Maximum
Current: 00 A/10**

**P01 Det Maximum
Current: 00 A/10**

These two screens allow the Installer to independently specify the maximum current allowed from the Battery Charger circuit and the Detector Supply circuit before Over-current System Input Alarms are activated.

The value can be set from 0.1A (100mA) to 9.9 Amps in 100mA increments. Ignore the decimal point when entering the value.

e.g. "05" = 500mA; "20" = 2A; "75" = 7.5A; "99" = 9.9A; etc.

A value of 00 means that the Over-current condition is not monitored.

IMPORTANT NOTES:

- If using the Standard version of the Module, or an Enhanced version with no Slave Modules connected, the value should be set to no more than 4A.
- If the Enhanced version is used, and Slave Modules are connected, a value of up to 9.9A may be set depending on the number of Slave Modules connected and the wiring configuration.
- If the Master/Slave configuration chosen is designed to deliver more than 9.9A on a particular circuit, then Over-current monitoring for that circuit must be disabled. (Set value to 00)

CALCULATING THE MAXIMUM CURRENT AVAILABLE.

The Maximum Battery Current or Detector Current available is calculated as follows:

$$I_{\text{max.}} = 2 + 2n.$$

Where "n" is the number of Slave Supply outputs ("B+" and/or "DET+" outputs) connected to the specified Master output.

Example 1: If one Slave is connected, set to "Charger Only Mode" and +B / -B of the Slave is connected to +B / -B on the Master, then the maximum Battery current available would be $2 + (2 \times 2) = 6A$.

"Charger Only Mode" combines the current available from the 2 outputs into the specified output.

(In this case, the Maximum guaranteed Detector current available would remain at 2A.)

Example 2: If three Slaves are connected, set to "Split Mode" and:

- +B / -B from all Slaves is connected to +B / -B on the Master.
- DET+ / 0V from all Slaves is connected to DET+ / 0V on the Master.

Then; The maximum Battery current available would be $2 + (2 \times 3) = 8A$;

And the maximum Detector current available would also be $2 + (2 \times 3) = 8A$.

Comms Task Programming

Introduction

All system communication is controlled by means of **Comms Tasks**. As the name suggests a Comms Task is a communications task or job that you wish the system to carry out. Because there can be more than one Comms Task, it is also possible for more than one communications task to be operating at once. For example, to configure the system for a review printer you simply allocate one of the available Comms Tasks to perform the review printer function. If you wish an alarms dialer to be operational as well, you simply assign another Comms Tasks the job of being a dialer format such as Contact ID. The number of Comms Tasks available is dependent upon the Memory Configuration.

Comms Tasks can either be “active” or “idle”. When the system is powered up, all programmed Comms Tasks are set to active so they can immediately start their intended function. If you wish to stop a Comms Task, for example abort a dialer format halfway through reporting, simply set that Comms Tasks to idle.

Communications Ports

Comms Tasks use **communications ports** to communicate with the outside world. Listed below are the possible communications ports:

Port Name	Location	Description
Telecom	Control Module PCB	Connected to the telephone network or a direct line network and used for upload-download, dialer reporting formats, direct line formats etc.
UART 0	Control Module PCB	Only used during installation. Can be used for direct connect upload/download with an adaptor <i>only during installation</i> .
UART 1	UART Expander	A general purpose RS232 port used for review printers, external PC connections, access control monitoring, special formats such as Securitel, fast modems to dial-up lines. Baud rate programmable.
UART 2	UART Expander	Same as UART 1
UART 3	UART Expander	Same as UART 1
UART 4	UART Expander	Same as UART 1

NOTE: The number of UART Ports available will depend upon the version of UART Expander fitted.

When a Comms Task is set to carry out a function, for example send data to a review printer, it will be configured to use one of the communications ports listed above. For example a Comms Tasks programmed for a review printer may be configured to use UART Port 3. This means that UART Port 3 cannot be used for any other purpose unless the Comms Task is set to idle.

Some Comms Tasks may share ports with other Comms Tasks. For example, a Comms Task programmed as a Contact ID dialer and another programmed as an IRfast format dialer. Although both these tasks are configured to use the Telecom port, when they are not reporting they are not using the port. If both tasks needed to use the Telecom port for reporting at the same time, one Comms Task will use the port first and, when finished, the other Comms Task will use the port.

Comms Task Formats.

Comms Task formats describe the job a particular Comms Task is to perform. For example, programming Comms Task CT003 to Contact ID format will invoke a Contact ID dialer using CT003. The programming of options for the Contact ID dialer using CT003 are unique to Comms Task CT003. If another Comms Task, CT005, were also to be programmed to Contact ID format, the Contact ID options for this Comms Task will be separate from those of CT003. This allows the commissioning of dual reporting with each Comms Task using its own Telephone Numbers and options.

Listed below and opposite are the possible formats that may be assigned to a Comms Task.

Programming of individual formats are explained in more detail in "Comms Task Formats" in the following sections.

<u>Comms Format</u>	<u>Section Number</u>	
Monitor	Comms- 1	
Answer Call	Comms- 2	
PC Direct	Comms- 3	
IRfast Dialer	Comms- 4	
Contact ID Dialer	Comms- 5	
EMS	Comms- 6	
EarthNet Direct Line	Comms- 7	
Securitel	Comms- 8	
Printer	Comms- 9	
External Modem	Comms-10	
Inet	Comms-11	
Accept	Comms-12	
Poll Data	Comms-13	
PACOM	Comms-14	
IRfast Backup Dialer	Comms-15	See Note 1
CID Backup Dialer	Comms-16	See Note 1
GSM	Comms-17	See Note 1
SpreadNet Wireless Interface	Comms-18	
4+2 Pulse Dialer	Comms-19	
Geoquip	Comms-21	See Note 2. Under development
8 pin	Comms-22	See Note 2
C-Bus	Comms-23	See Note 2
Inovonics Wireless Interface	Comms-24	See Note 2
PosData DVR	Comms-25	See Note 2
Dynalite	Comms-26	See Note 2

IMPORTANT NOTES:

- 1) Any Comms Task used as a "Backup" Task operates as an independent Comms Task and must therefore have all the normal options programmed. i.e. Programming options are not automatically taken from the main Comms Task.
- 2) Available in Type 2 (CE) Control Modules or later only.

Comms Task Baud Rates

IMPORTANT INFORMATION

Maximum Baud Rate settings.

Whenever more than one Comms Task is programmed it is important to ensure that the **combined** Baud rate of all Comms Tasks to be active at the same time does not exceed:

Type 0 / Type 1 Control Modules:	19,200 Baud.
Type 2 Control Modules:	38,400 Baud.

eg. On a Type 1 Controller, if a “SpreadNet” Comms Task, which must communicate at 9600, and a “Printer” Comms Task, set to 1200, are used concurrently; a “PC Direct” Comms Task for PC System Management would have to be set to 4800 Baud to ensure that the total Baud rate does not exceed 19,200. In this example, the total Baud rate would be 15,600.

When assigning Baud rates, do not forget to include the Baud rate of any Comms Task using the Telecom Port at the same time. (For Contact ID and IRfast formats allow 300 Baud; for Upload/Download formats allow 1200 Baud)

Upload / Download.

In addition to the general guidelines above, the following should be noted when connecting to a Type 0 or Type 1 Control Module for Upload/Download (PCDirect or ACCEPT Comms Tasks).

For Upload/Download applications it is recommended that the Baud rate is set to the default value of 9600 Baud or lower. Baud rates of 19200 or above are not recommended and depending on the hardware and cabling used, may result in unreliable communications.

UART Port Diagnostics

CT001	.R..
Status	nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared (reset) when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

Format	Ports Used	Description
Monitor	UART 0 to 4	For manufacturer's use only.
Answer Call	Shares Telecom	Answers calls for upload/download, DTMF (Touch-tone) Telephone Remote Control and performs telephone line monitoring. Can be programmed to Callback the computer that initiated the call, for added security.
PC Direct	UART 1 to 4	Used to allow a PC to be connected permanently to the 3000/4000 system for upload-download or access monitoring.
IR Fast	Shares Telecom	Reports alarm information in Inner Range fast Format (Extended)
Contact ID	Shares Telecom	Reports alarm information in Ademco Contact ID format.
EMS	UART 1 to 4	Used to communicate directly with high level lift control equipment. V3 or later.
EarthNet	Telecom	Reports alarm information in EarthNet Direct Line format via a direct line. Setting an EarthNet Comms Task to "active" will prevent any other Comms Task from sharing the Telecom Port.
Securitel	UART 1 to 4	Reports alarm information via a Securitel STU connected to a UART port.
Printer	UART 1 to 4	Used to continuously dump review information to a serial printer.
External Modem	Shares telecom or UART 1 to 4	Used to periodically dump review to a remote PC via the Telecom Line or via a separate line connected to an external modem.
Inet	UART 1 to 4	Allows multiple panels to communicate alarm data and a limited amount of database editing commands to and from an automation package via an RS232 based network. Contact the Distributor for details. V3.5 or later.
Accept	UART 1 to 4	Used to permanently connect a PC running ACCEPT System Management Software. V2 or later.
Poll Data	UART 1 to 4	Allows the 3000/4000 system to be monitored and controlled by an external intelligent system using Contact ID data format &/or system text. V3 or later. e.g. Guardall NZ Tripad or Santana CCTV Interface.
PACOM	UART 1 to 4	Allows the 3000/4000 system to be monitored and controlled via a PACOM Network. V3 or later.
IRfast Backup	Shares Telecom	Reports alarm information in Inner Range format (Extended) when primary Comms format fails.
CID Backup	Shares Telecom	Reports alarm information in Ademco Contact ID format when primary Comms format fails.
GSM	UART 1 to 4	Allows secure communications via GSM modem to central stations &/or GSM mobile phones for alarm reporting and remote control. V3.5 or later
SpreadNet	UART 1 to 4	Allows the 3000/4000 system to connect directly to a C&K Spreadnet receiver. V2 or later.
4+2 pulse	Shares Telecom	Allows the 3000/4000 system to connect directly to Central Stations using the 4+2 Pulse format. V3 or later.
Buffer		Special purpose Comms Task generated automatically when the GSM Comms Task is used.
Geoquip		Under development.
8 pin	Auxiliary Outputs	Allows the 3000/4000 system to activate Auxiliary outputs for 8 different types of alarms with alarm verification logic for "Intruder" alarms. The Auxiliaries can then be used to trigger inputs on 3rd party communicators (e.g. 8 pin STU) or 3000/4000 Zone Inputs for reporting via any other Comms Task such as Contact ID or IRfast. (Not available on Type 0 or 1 Control Modules)
C-Bus	UART 1 to 4	Allows the 3000/4000 system to communicate directly with a Clipsal C-Bus Controller. V4 or later. (Not available on Type 0 or 1 Control Modules)
Inovonics	UART 1 to 4	Allows the 3000/4000 system to connect directly to a C&K Spreadnet Receiver. V4 or later. (Not available on Type 0 or 1 Control Modules)
PosData DVR	UART 1 to 4	Allows a PosData Model BX 4 Channel DVR to be controlled from a 3000/4000 LCD Terminal. (Not available on Type 0 or 1 Control Modules)
Dynalite	UART 1 to 4	Allows the 3000/4000 system to communicate directly with a Dynalite Controller. V4.5 or later. (Not available on Type 0 or 1 Control Modules)

Comms task to
program: CT001

This screen allows the programmer to select a Comms Task to programme by using the up and down arrows or by entering a number.

CT001 Idle ->
None

The screen has three roles:

1. It allows a Comms Task format to be selected by using the right arrow key to cycle through all the available formats. Pressing the OFF key selects no format for this Comms Task and goes to the start of the list of available formats.
2. The "9" key is used to toggle the Comms Task between the "Idle" state and the "Active" state. **A Comms Task format cannot be changed or programming changes made unless the Comms Task is idle.**
3. Pressing HELP, "9" will allow options to be programmed for the particular format chosen for that Comms Task. It is recommended that options are only changed when the Comms Task is idle.

Example: Contact ID has been selected for Comms Task CT001

CT001 Idle ->
Contact ID

Although a format has been chosen, because the Comms Task is idle, no dialling or reporting will take place.

To programme options for the Contact ID dialer using Comms Task CT001 press HELP, "9".

CT001 Active ->
Contact ID

To start Comms Task CT001, simply press the "9" key. The display will change to that of the screen on the left.

The Contact ID dialer is now operational using CT001. To stop the Contact ID at any time, simply go to the above screen and press the "9" key to toggle the Comms Task back to idle.

Defaults

In V3 or later, Comms Task 1 (CT001) is defaulted to "PC Direct" format on Port 1 at 9600 Baud.

Programming options and screens will vary depending on the format of Comms Task selected.

Telephone Number Programming

Any Comms Task requiring a Telephone Number, uses a Telephone Number chosen from a "telephone directory" in which you can add and delete Telephone Numbers as required. The maximum number of Telephone Numbers in the directory depends on memory configuration, up to a maximum of 250 Telephone Numbers.

Phone # to
program: TN001

This screen allows the User to jump to a particular Telephone Number to alter or, by pressing the ON button, to search for a particular Telephone Number by name.

Find Phone No. ^
ABC SECURITY

Phone #001 Name:
ABC SECURITY

This screen allows an optional name to be assigned to this Telephone Number, up to 16 characters long. (It is recommended that a Telephone Number be assigned a name in order that it may be chosen by name when programming a Comms Task).

TN001 T.Zone ->
WEEKDAY

This screen allows an optional TimeZone to be "attached" to this Telephone Number. When a TimeZone is "attached", the Telephone Number only "exists" when the TimeZone is valid. When the TimeZone is invalid, the Telephone Number will be considered as not programmed OR the Alternate Telephone Number specified on the next screen will be used instead, if programmed. To select a TimeZone press the right arrow key to scroll through all the available TimeZones alphabetically. Press the OFF key if you wish no TimeZone control of this Telephone Number. (The ON key may be used to change modes to allow a TimeZone to be selected by number if desired).

TN001 TimeZone
TZ001

WARNING: A Comms Task will become idle if no valid Telephone Number is programmed.

TN001 Alt. No.->
BACKUP CS

This screen allows an alternate Telephone Number to be programmed. It specifies which Telephone Number will be used instead of this Telephone Number when an "attached" TimeZone is invalid.

TN001 Alt. No.
TZ002

The ON key may be used to change modes to allow an Alternate Telephone Number to be selected by number if desired.

Phone #001 is:
97533488

This screen allows the actual Telephone Number to be programmed. You can have up to 16 digits.

A one second pause can be inserted in the number by leaving a space in the number. To leave a space you will first need to clear the screen by pressing the OFF key. The number may then be entered and a space inserted by using the arrow keys.

If "*" and "#" characters are required in the Telephone Number, press the On Key before beginning to enter the number. This changes the entry mode to alpha-numeric, allowing the "0" Key to be used to select "*" and/or "#" characters and the "6" Key to be used to select "P" for Pause. (In this mode, any character other than 0-9, *, # and P will be interpreted as a "P"ause.)

"*" and "#" may be required to be sent as part of the telephone number to disable certain telephone network functions such as Call Waiting, Caller ID etc.

DTMF Control Programming

The “Answer Call” Comms task has been enhanced to allow for DTMF control. Any 3000 / Access 4000 can now be controlled remotely from any telephone which is capable of sending dtmf (dual tone, multi frequency) tones. By dialling the system and using the telephone keypad, specified areas can be turned on or off. Alternatively specified auxiliaries can also be controlled.

The following screens allow the Installer to programme a number of 4 digit control codes for DTMF Control.

See the sections on the “Answer Call” Comms Task format and “Application Programming” for further information.

DTMF Control to
alter: DC001

This screen allows the Installer to select a DTMF Control for programming.

DC001 Control
Code: 0000

This screen allows a 4 digit control code to be programmed. The digits “0” to “9” may be selected and 4 digits must be entered. Note that “0000” cannot be used as this is reserved as the hang-up code.

DC001 Function->
None

This screen determines the function that will be carried out whenever the above control code is legally entered. Press the Right Arrow Key to scroll through the available options.

The following table describes the available functions and the screens that will need to be programmed as a result of their selection:

Selection	Description	Output Aux Screen	Area to Operate Screen	Aux Time Screen
None	No function programmed	N/A	N/A	N/A
Area On	Turn on an Area	Ignore	Yes	Ignore
Area Off	Turn off an Area	Ignore	Yes	Ignore
Aux On (sec)	Turn on an Aux for a set time in seconds	Yes	Ignore	Yes
Aux On (min)	Turn on an Aux for a set time in minutes	Yes	Ignore	Yes
Aux Off	Turn off an Auxiliary	Yes	Ignore	Ignore

DC001 Output
Aux: :X

This screen sets the Auxiliary Output to be controlled for any function that controls Auxiliaries.

DC001 Area to
Operate: A000

This screen sets the Area to be controlled for any function that controls Auxiliaries.

DC001 Aux Time
000 sec/min

This screen sets the Auxiliary Output On time in minutes or seconds for any function that turns on Auxiliaries. A time of zero means turn on the Auxiliary permanently.

Feedback Tones

There are 4 types of tones that can be output:

<u>Tone</u>	<u>Description</u>	<u>When Used</u>
Start Tone	3 short 1650 Hz beeps	On entry to DTMF Control mode. When the "*" or "#" key is pressed.
"On" Tone	1 short 1650 Hz beep	When a legal control is entered, resulting in an "On" type action.
"Off" Tone	2 short 1650 Hz beeps	When a legal control is entered, resulting in an "Off" type action.
Error Code	1 long 980 Hz beep	When an illegal control code is entered. When control code action cannot be carried out. When the 10 second digit timer expires. When the 60 second command timer expires.

Notes:

1. If an attempt is made to turn on an Area and it is already on, an "On" tone will be output.
2. If an attempt is made to turn off an Area and it is already off, an "Off" tone will be output.
3. The only security that is offered is via the DTMF mode access tone and the 4 digit control code. No Area lists etc are checked.

System Options Programming

General System Options

These screens are used to programme general purpose options associated with the Model 3000/4000 Control Module and the System.

**Power Fail Delay
Time: 000 min**

This screen sets the time that the **Control Module** "AC fail" System Input must stay in alarm before the Control Module will recognise an AC fail alarm. For example, setting a period of around 15 minutes would prevent an AC fail report being sent to the Central Station on brief interruptions to the AC supply. Setting the time to 000 will result in no delay and therefore instant reporting of the alarm (depending on the input programming).

Note: Power Fail Delay Time for a Universal Expander Module is set via a DIPswitch on the Expander's board. This allows the Installer to select a Delay Time of between 20 and 255 seconds.

**Site Code Type->
Standard**

This screen sets the type of Card data processing that will be used whenever a Site Code type of Reader is defined. When the "General" option is selected, this type of processing will be used for all Readers present on the system.

Standard

For Inner Range Mag Swipe format Cards, this type is selected.

For 26 bit Wiegand formats, this type expects the Site Code from bit 2 to bit 9 and the Card ID being from bit 10 to bit 25. The start bit (bit 1) and the stop bit (bit 26) are ignored. The Site Code is stored in the first 2 digits only (Hex) in the Site Code programming.

For 34 bit Wiegand formats, this type expects the Site Code from bit 2 to bit 17 and the Card ID being from bit 18 to bit 33. The start bit (bit 1) and the stop bit (bit 34) are ignored. The Site Code is stored in the first 4 digits only in Site Code programming.

There is no issue number with this type.

General

V4.5 or later. Allows the Installer to define the location and length of the Site Code and Card ID data on the Cards to be used in this system. This allows Site Code processing to be used for any Wiegand or Mag Swipe Card formats that meet the following requirements:

- 1) The total Card data to be processed is no more than 40 bits or 15 characters.
(Cards with more data can be used, but the additional data will be ignored)
- 2) The Site Code data is in a continuous sequence from Most significant bit (MSB) to Least significant bit (LSB) and is no more than 19 bits or 10 characters.
- 3) The Card ID data is in a continuous sequence from Most significant bit (MSB) to Least significant bit (LSB) and is no more than 16 bits or 5 characters.
(Supports up to 65535 Cards)
- 4) The data is not scrambled or encrypted.

NOTES:

1. Reader formats "NBit Wiegand" or "NBit Fast" (For Wiegand Readers) and "Swipe" format for Magnetic Stripe Readers should be used for General Site Code Type.
2. The screens for programming the location and length of the General Site Code data are found later in this section.
3. Cards requiring "Standard" Site Code processing and those requiring "General" processing cannot be used together on the same system.

Real Time Clock Adjustment Options

The real time clock in the panel is crystal controlled but because the crystal frequency is not trimmed in production, the clock may drift with time. Later version PCBs allow the use of AC mains frequency to correct for drift, resulting in a better long term accuracy. Older style PCBs without AC mains frequency synchronisation can be identified by the words "PCB: 0" when the MENU key is pushed whilst logged off. Newer style PCBs can be identified with the words "PCB: 1" instead.

Some communication formats such as IRfast and EarthNet can automatically correct the clock when communication with the Central Station.

The Model 3000 and Access 4000 both allow the clock to be trimmed under general options by the Installer, if desired. Both the older style and newer style PCBs can be trimmed, however it is desirable with newer PCBs to allow the AC power frequency to trim the clock automatically.

Clock Adj **6NF**
Options-> **nnn**

This screen sets the Clock adjust options:

6 **60 Hertz Mains**

Set this option to "Y" to adjust the clock synchronisation for countries where the AC mains frequency is 60 Hertz. Leave set to the default "n" for countries where the AC mains frequency is 50 Hertz.

Note: Must not be set to "Y"es on Type 1 Control Modules.

N **No mains sync**

Set this option to "Y" to prevent synchronisation with AC mains frequency. Only recognised for Type 1 Control Module boards or later. This option should only be set to "Y" if the AC power frequency is inaccurate as is the case with some un-interruptible power supplies.

If this option is set to "Y"es, a System Reset (MENU, 7, 8, 9) must be performed before the change will take effect.

F **Clock is Fast**

Set this option to "Y" if you wish the clock to run slower. Leave set to "n" if you wish the clock to run faster or maintain the same speed.

Clock Error in
100ms/24Hr: 000

This screen is used to correct for drift in the real time clock. This screen should be left at 000 for newer style PCBs if the "N" option above is set to "n", in which case the AC power frequency will automatically correct the clock.

The number depicted above is the clock error in 1/10th of a second in a 24 hour period. The clock will be made to run either faster or slower, depending on the setting of the "F" option above.

After adjusting this screen you should reset the time accurately on the time/date screen. This will cause the above changes to be recognised and the clock adjusted accordingly.

Example for older style PCBs (or newer style with "N" option set to "Y")

1. Check the current Clock error is set to 000 (Units are in 100ms/24Hrs)
2. Set the time accurately by pushing the OK key at the exact second.
3. Check the time is set accurately by logging in and inspecting review for the exact time the OK key was pushed when logging in. Adjust if required.
4. Wait at least 24 Hours.

5.

Check the time again by logging in and inspecting review for the exact time the OK key was pushed when logging in.
6.

Calculate the correction required
Correction = (error in seconds)*240/(Hours since clock set)
7.

Enter the correction as above and set the “F” flag to “Y” if the clock was running fast and leave at “n” if the clock was running slow.
8.

Set the time accurately again by pushing the OK key at the exact second.
- Eg.

If the clock was running slow by 5.6 seconds in 28 hours, the correction will be: $5.6*240/28 = 048$ and the “F” flag should be set to “No” to make the clock run faster.

The first Options screen sets a number of common panel options:

Panel	NDFRL+I.
Opts->	nnnnnnnn

Panel	NDFRf+I.
Opts->	nnnnnnnn

This screen is displayed in V4.5 or later.

This screen is displayed in V4 or earlier.

N	No Aux off on Reset	Set this option to “Y” to cause the state of all auxiliaries to be retained in the event of a system reset. (The setting of the “Off on Reset” option in Auxiliary Timer Programming [MENU 5, 5] will be ignored).
D	Detailed Review	Set this option to “Y” to enable detailed review mode. This allows more comprehensive review messages when required for debugging programming problems, communication problems and input problems etc.
Detailed review events at this time are:		
<ul style="list-style-type: none">A selection of Comms Task messagesEntry/exit/pulse/siren/ac hold off/low bat. timer start/expiredPulse CountsTracing users at various menus.		
F	Fast Processing	If set to “Y”, this flag enables faster Zone processing of Zones on external modules. This option is particularly suited to Button Feedback processing when used in Lift Access Control.
R	Force Review	This option overrides all “Do not save to review” flags within the programming of all other modules in the system. This option enables the installer to temporarily force all modules to save all events to review for the purposes of debugging. When debugging is complete, this flag should be reset to “n”.
L	No ON key Lockout (V4.5 or later)	“UK” Firmware Only. If set “Y”, the On Key Lockout function is Disabled. V4.5 or later of the “UK” Control Module Firmware provides an “On Key Lockout” feature as standard. This feature operates as follows: Any Area that has had an alarm that generates an “Xmit” (Comms) Entry in Review, and is subsequently turned Off, will have the On key disabled for re-arming that Area.

The On key can only be Enabled (Reset) by the Installer logging on to the Terminal, an "Engineering Code" being entered or a Calculated Auxiliary "Reset Alarms +ON" action.

The Engineering Code method requires the following steps:

- 1) Select MENU, 3, 9 (Reset Alarms) at the LCD Terminal while logged off.
- 2) Provide the Central Station with the Date and Time Data shown on the display.
- 3) While still in MENU, 3, 9, enter the 4 digit Code supplied by the Central Station.

NOTE: The Engineering Code is not a User PIN code.

The Calculated Auxiliary "Reset Alarms +ON" function allows the system to be configured so that the On key can be Enabled/Reset by:

-A Command-Back Auxiliary action from the Central Station.

(If supported by the communications format)

-An Auxiliary control command from system management software.

-A Keyswitch wired to a Zone Input.

f fast Zones
(V3 to V4)

If set to "Y", this option applies a faster Zone debounce time to all zone inputs attached to the Control Module. The faster debounce time is, on average, 165ms. Note: 165mS Debounce is standard on Type 2 Control Modules.

+ +1 Duress Code

The +1 Duress Code option causes **every** PIN code to also have an associated duress code which is one digit different from the PIN number. This enables a Duress alarm report to identify the individual User.

The Code length remains the same. To work out the duress version of a PIN code, simply add 1 to the last digit. If the digit is already a "9", adding 1 causes the digit to be "0". The code will behave exactly as if a code was entered with the User's (D)uress flag set.

IMPORTANT NOTE: When this option is used, the number of available PIN codes is effectively halved. i.e. If 4 digits are used, only 5000 combinations will be available instead of the normal 10,000 combinations.

e.g. If a User's PIN code is 2468, their Duress version will be 2469. So the system will not allow 2469 to be programmed as another User's PIN code.

I Ignore AC Problems

The Ignore Power problems level messages option causes all AC fail inputs to be ignored as far as "Had Power Problems" level messages are concerned.

Panel E U e
Opts2-> n n n n n n n n

The second Options screen sets a number of additional panel options:

E Extra Area
programming denied.

Set this option to "Y" to disable the ability to assign or edit the "User Extra Area" when programming Users. Once this option is set to Yes Areas can only be assigned to a User via the Area List in their User Type and avoids the possibility of Users being assigned an Area that they should not have access to.

Has particular relevance in multi-tenancy installations, etc.

V3.5 or later only.

U Use Start Bit.

Normally the First and Last Bits of a Wiegand Data string are stripped from the Card Data as these are normally parity Bits and are not required.

If the system utilizes the Wiegand NBit or NBit Fast "Direct Entry" Mode for Card Data, this option can be set to "Y" to enable the First and Last Bits to be used in the Card Data. This is useful to prevent duplication of card IDs if the card data is a proprietary format that does not use parity Bits.

V3.5 or later only.

- e **Extra Door/Door List programming denied.** Set this option to "Y" to disable the ability to assign or edit the "User Extra Door" or "User Extra Door List" when programming Users. Once this option is set to Yes Doors can only be assigned to a User via the Door List in their User Type and avoids the possibility of Users being assigned a Door that they should not have access to. Has particular relevance in multi-tenancy installations, etc.
V4.5 or later only.
Only relevant to Memory Configurations that allow Extra Door / Extra Door List programming.

**Reader for User
Prog: R00**

This screen is used to allow any Single Door or 2 Door Reader Module in the system to be used for:

- Programming User's cards by swiping. (In "Direct Entry" mode)
- Programming Backup Cards for Readers
- Reading Card Data in Test mode.

Enter in the new Reader Module ID if a Reader Module other than Module 01 is to be used.

NOTE:

- 1) The prompt screen under the Test Card menu [MENU 4,5] or when enrolling Direct Entry or Backup Cards will display "Waiting for Card at Rxx", where xx = Reader Module number specified above.
(Prior to V4 the prompt screen displays "Waiting for Card at R01" regardless of the Reader Module specified above.)
- 2) On 2 Door Reader Modules, either Reader Port can be used.

**Area Defer
Time: 000 min**

This screen allows the Installer to specify the time period in minutes for the Deferred Area Arming option. See details of the Deferred Area Arming options in "Area Programming". This time period will be used if no "Defer Time" is programmed in the individual Area options.

**C01 Battery Test
Time: 000 min**

This screen allows the Installer to programme the Battery Test Time for the Control Module. (Battery Test times for other Modules are set within the programming for each individual Module.

Battery testing is initiated by a Diary event which allows the installer to specify the frequency of such testing, dependent on the specific requirements.

The period can be set from 0 (no test) to 255 minutes for each module to be tested.

Only the Control Module, B and E type expanders, Intelligent 4 Door Access Modules and LAN Power Supply Modules are capable of battery testing.

The battery test is activated within the Control Module when a diary with a function of "battery test" goes valid. Once completed successfully or in the event of failure the next module programmed will then start its battery testing sequence. Battery testing finishes once all modules set for testing have completed their test.

Battery test times should be set with module load in mind. It should be realized that if a battery test of 4 hours is performed and the AC supply to the premises fails shortly after the test was complete, the charge of the battery would be severely effected. This, coupled with the age of the battery, would greatly reduce the integrity of the system.

The battery test does NOT turn off the AC Mains supply to the module being tested. Instead, it turns off the Battery charge circuit allowing the module to run off the battery supply only.

As a general rule, a battery test time of between 1-10 minutes would be used to determine only that a battery was connected. A time of between 60-120 minutes would deduce that a battery should be in good working order. Periods greater than 120 minutes should only be set for deep discharge testing conditions where the reliability of the AC mains supply can be guaranteed.

General Site Code Type parameters.

The following screens allow the Installer to define the Site Code data parameters to be used when the "General" Site Code Type is selected.

These values are entered as the number of:

Bits	When Wiegand Readers are used.
or Characters	When Mag Swipe Readers are used.

General Site
Total bits: 00

This screen is used to define the total length of the data string to be processed from the Card. This value must include any parity bits included within the string of data to be processed. The maximum is 40 bits, or 15 characters.

e.g. HID Corporate 1000 format: 35 bits.

General Site
Site Size: 00

This screen is used to define the length of the Site Code (Facility Code) data. The maximum that can be processed is 19 bits, or 10 characters.

General Site
Site Offset: 00

This screen is used to define the number of bits in the data string **before** the **first** bit/character of the Site Code (Facility Code) data.

i.e. The number of bits by which the Site Code data is offset from the start of the data.

General Site
User Size: 00

This screen is used to define the length of the Card ID (Card number) data. The maximum that can be processed is 16 bits, or 5 characters.

If a value greater than that specified above is programmed, the bits or characters above this maximum will be set to 0 when the Card ID data is processed.

This means that any Card ID greater than 65535 will be interpreted as lower card numbers, and will effectively be duplicate cards of the Card IDs below 65535.

e.g. Card ID 65536 will be read as Card ID 0. (Cannot be used)

Card ID 65537 will be read as Card ID 1.

Card ID 65538 will be read as Card ID 2. etc.

General Site
User Offset: 00

This screen is used to define the number of bits in the data string **before** the **first** bit of the Card ID (Card number) data.

i.e. The number of bits by which the Card ID data is offset from the start of the data.

EXAMPLE 1.
A batch of Proximity Cards has a 30 bit data format.
P S S S S S S S S S S S C C C C C C C C C C C C C C C C C P
Where P = Parity bit. S = Site Code bit. C = Card ID bit.

The General Site Code Type parameters would be programmed as follows:

Total Bits:	30	The total number of bits to be processed.
Site Size:	12	The number of Site Code bits.
Site Offset:	1	The number of bits before the Site Code data starts.
User Size:	16	The number of Card ID bits.
User Offset:	13	The number of bits before the Card ID number starts.

EXAMPLE 2.
A batch of Mag Swipe Cards has a 10 character data format. e.g. 1234009776.
When this card is presented at a Reader using the Test Card Menu, the data displayed will be; 2143007967. This is because ISO2 Cards are encoded with each pair of characters swapped.
Note: When the system is programmed for “General” Site Code Type, it automatically swaps each pair when processing so that the data is presented in the correct order.

Testing other cards throughout the batch reveals that the 1st four characters (1234) are the same for all Cards. This data can be used as the Site Code.
The remaining data (009776) corresponds with the Card number printed on each Card. The last 5 characters of this data can therefore be used as the Card ID data.

The General Site Code Type parameters would be programmed as follows:

Total Bits:	10	The total number of characters to be processed.
Site Size:	4	The number of Site Code characters.
Site Offset:	0	The number of bits before the Site Code data starts.
User Size:	5	The max. number of Card ID characters that can be processed.
User Offset:	5	The number of characters before the usable Card ID characters start.

**Holdoff Siren
Time: 000 min**

Siren Holdoff Time. (V4.5 or later)

This screen allows a Siren Holdoff Timer to be programmed. The Timer can be programmed in 1 minute intervals from 0 to 127 minutes.

A value of 0 means that all Siren outputs will operate according to the Area Siren options, with no Holdoff delay.

A value of 1 to 127 will cause any Siren output activation in any Area to be delayed by the programmed Holdoff Time.

NOTE: The Siren Holdoff Timer has no effect on the operation of the Area Siren Auxiliary. The Siren Auxiliary will always operate with no Holdoff delay.

Any valid PIN Code that has permission to cancel Sirens, will only cancel the Sirens when the Sirens are sounding. If the PIN is entered during the Holdoff time before the Sirens are activated, the Sirens will not be cancelled.

If the Area is turned Off while the Holdoff Timer is running, the Holdoff Timer will expire immediately and the Sirens will be cancelled.

Example.

Siren mode is programmed for "Instant" operation.

The Siren Time is 5 minutes and the Holdoff Siren Time is 2 minutes.

When an alarm occurs:

- The Siren Timer and the Siren Holdoff Timer will start, and the Siren Auxiliary (if defined) will be activated.

- 2 minutes after the alarm the Holdoff Timer expires and the Sirens are activated.

- 7 minutes after the alarm the Sirens are cancelled after sounding for 5 minutes. (If not already cancelled by a valid PIN Code or Area Off)

Memory Defaulting

Memory Configuration Options

There are a range of Memory Configurations available in the Model 3000/4000. The actual numbers of various items available in any of the options will also depend on the size and version of the Memory Chip fitted to the Control Module. eg. The "Enlarged" option is not available with the 32K Memory Chip set.

The configurations currently available are:

- | | |
|-------------|--|
| Standard. | Provides a balance of item numbers allowing for larger security installations with a moderate number of access controlled doors and/or lifts. |
| Access | Still provides for large security installations, but expands the access control capabilities . |
| Enlarged | <u>128k and 512k configurations.</u> This option decreases the number of access control features such as Doors, Door Lists, Access Modules and Interlocks but expands input/output functionality .
<u>32k configuration.</u> This option provides 2 Intelligent 4 Door Access Modules in addition to 2 Single Door / 2 Door Access Modules providing up to 12 Doors in total. |
| Apartments | V4.5 or later. Provides a balance of item numbers with an emphasis on access control and automation functions. |
| Access 2 | V4.5 or later. Similar to the Access configuration providing some useful variations. |
| V2 Standard | V3 to V4 only. This option allows a database created under the "Standard" Memory Configuration of version 2 firmware to be imported into a similar memory configuration of version 3 firmware or later. |
| V2 Access | V3 to V4 only. This option allows a database created under the "Access" Memory Configuration of version 2 firmware to be imported into a similar memory configuration of version 3 firmware or later. |
| Special | This option has been devised for special needs identified in each of the three Memory Size options.
In 32k: Oriented toward Domestic applications with additional Home Auxiliaries, Home Zones and DTMF Control Codes.
In 128k: Additional Mini Expanders supported for installations where Mini Expanders are the most suitable form of expansion. Support for Intelligent 4 Door Access Module (V3.5 or later)
In 512k: Similar to 512k Access but with additional PIN Codes, User Names, LCD Terminals and support for Intelligent 4 Door Access Modules (V3.5 or later). Has slightly fewer Doors, less standard Reader Modules and less Card Only Users. |
| Alarm | This option has been devised for supporting larger numbers of 32 Zone Expander Modules to maximize the input / output capability of the system. |

Refer to the "Memory Configurations" section of this manual for complete details of all configurations.

Memory Defaulting

CAUTION: IMPORTANT INFORMATION. This screen is used to completely erase all options programming in the system and re-set it back to factory default settings. Exercise extreme care - once erased, programming cannot be recovered unless an up-to-date copy is stored in an Upload/Download program.

**Memory Default->
Don't default**

This option is used to select which Memory Configuration is to be used in this system.

Press the Right Arrow key until the required configuration is displayed.

Note that you cannot change memory configurations without erasing all programming unless an Upload/Download software is used.

**Memory Default->
Standard**

When the required configuration is displayed, press the OK key.

**Push '9' key to
Confirm Default**

When this screen is displayed you have 10 seconds to push the "9" key to confirm that you wish to default the memory to the configuration selected.

IMPORTANT NOTE: Once the "9" key is pressed all programming will be erased in a fraction of a second and the memory defaulted to the required configuration.

Pressing any other key will abort the process and leave the current programming and configuration intact.

Memory Expansion or Re-configuration.

The following procedures must be followed in order to expand an existing system to that of a different Memory Size and/or Configuration.

NOTE: If upgrading the Control Module firmware Version, (with or without expanding the Memory) refer to "Firmware Upgrade" following the Diagrams.

1. You will need a PC or Laptop loaded with:
 - IRPC3 V1.02b for Version 1 Control Module firmware.
 - PC DIRECT V2.00c for Version 2 Control Module firmware.
 - PC DIRECT V3.00 (or later), or Wdirect V3.00 (or later) for Version 3 or later Control Module firmware.
2. You will also need:
 - A Programmer's manual of the same Version as the Control Module firmware.
 - Previous training and experience uploading and downloading to 3000/4000 product. If you are unsure during any stage of the upgrade STOP and consult your distributor, as data may be lost.
3. Perform a full upload of the system as it exists using the relevant copy of Upload/Download software.
 - If V1 firmware use IRPC3 V1.02b. If V2 firmware use PCDirect V2.00c.
 - If V3 firmware use PCDirect V3.00 or Wdirect V3.00 (or later)
 - If V3.5 firmware or later use Wdirect V3.50 (or later)
4. IF fitting Memory Expansion, power the panel down and disconnect the battery.

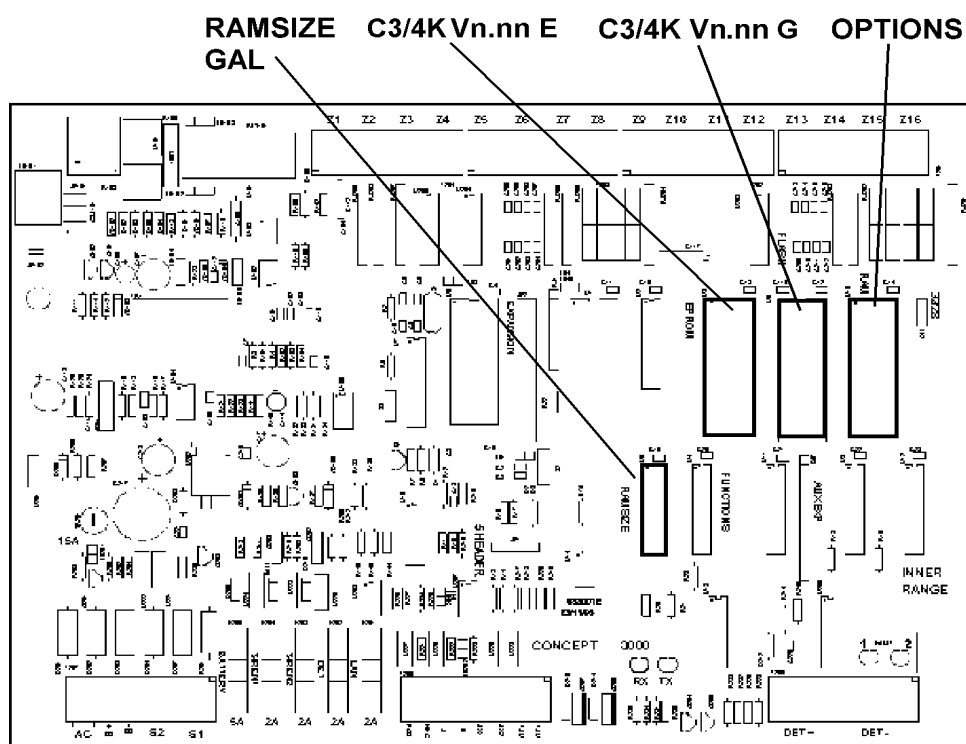
(NOTE: Damage may occur to the panel if power is not removed when changing chips).
5. IF fitting Memory Expansion remove the existing OPTIONS chip and RAMSIZE GAL or OPTIONS MICRO CHIP and fit the new OPTIONS and GAL / OPTIONS MICRO chips as shown in:
 - Diagram 1, IF Type 0 PCB. (Older V1 and V2 systems - Australia and New Zealand only)
 - Diagram 2, IF Type 1 PCB. ("Concept Access 4000 REV C" or later)
 - Diagram 3, IF Type 2 (CE) PCB. ("Concept 3K/4K CE. 935001 Rev. ?")

NB: Ensure the jumper setting of the 28/32 Pin Link on the Control Module reflects the number of pins on the RAM chip.
6. Power the panel up. The Control Module will run a short internal diagnostic test and illuminate LED 2 on the Control Module board to signify that the RAM has not yet been initialised. This is to be expected. To initialise the RAM, short the pins on LK4 on the Control Module board. The new RAM chip may then be defaulted it to a suitable Memory Configuration <MENU>, 7, 5, 2.

If Memory Expansion has just been fitted, the Memory configuration chosen should match the nature of the system's original database. (Standard, Access, etc.) See the relevant Programmers manual for Memory configuration details.
7. Set up a Comms Task in the panel for "PC Direct". If the previous database had a PCDirect Comms Task, keep the PCDirect Comms Task number in the new database the same as that of the previous database. Using the Version of PCDirect/WDirect used to Upload from the panel in Step 3, download the database back into the panel.
 - If panel has V1 firmware use IRPC3 V1.02b. If panel has V2 firmware use PCDirect V2.00c.
 - If panel has V3 firmware use PCDirect V3.00 or Wdirect V3.00 (or later)
 - If panel has V3.5 firmware or later use Wdirect V3.50 (or later)

8. When communications is first initiated, it will fail on the configuration comparison. This is because the new Memory size and/or configuration will have some different structures than the original Memory size and/or configuration. By viewing the communications report you may check the differences between the database (PC) and panel (upload configuration). As long as the panel configurations are larger than those in the database, no entries will be lost. In the event that any databases in the upload configuration are smaller, entries will be automatically deleted.
9. Assuming the panel has been defaulted to the best match configuration in Step 6, choose "USE UPLOAD CONFIGURATION" and then choose "Yes" at the database size warning. Once the Download is complete, a LAN initialize and Secure must be done. <MENU>, 7, 8, 1.
10. Do a complete upload into a version of PC Direct/WDirect that matches the panel firmware version again. This will now become the new client database for this site.

Diagram 1



3000 / ACCESS 4000 CONTROL MODULE, TYPE 0.

Diagram 2

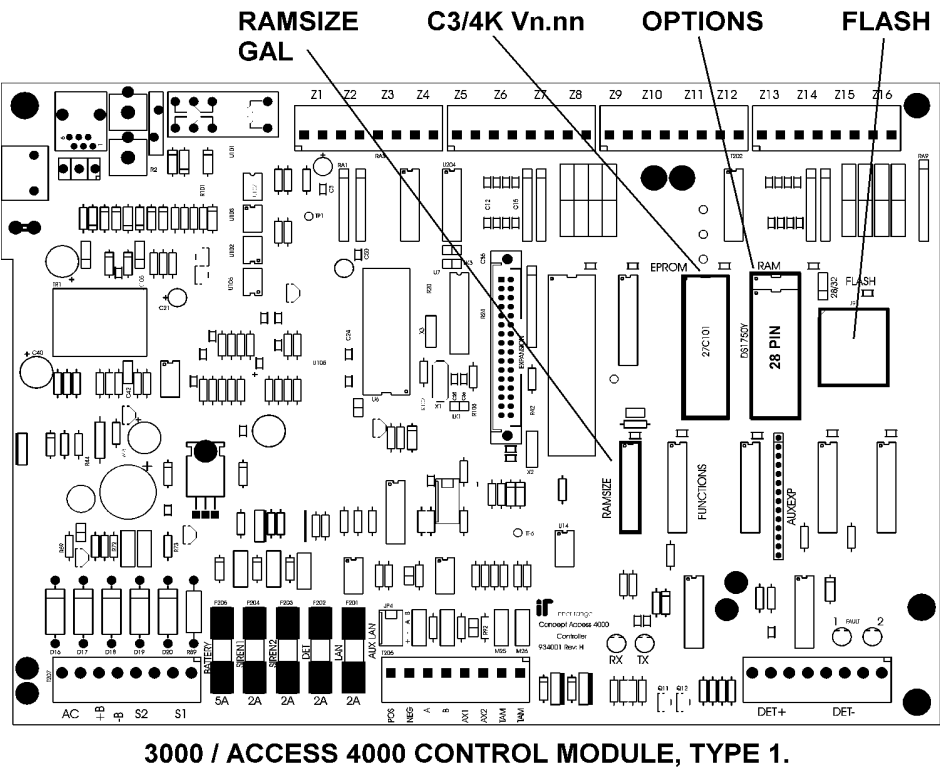
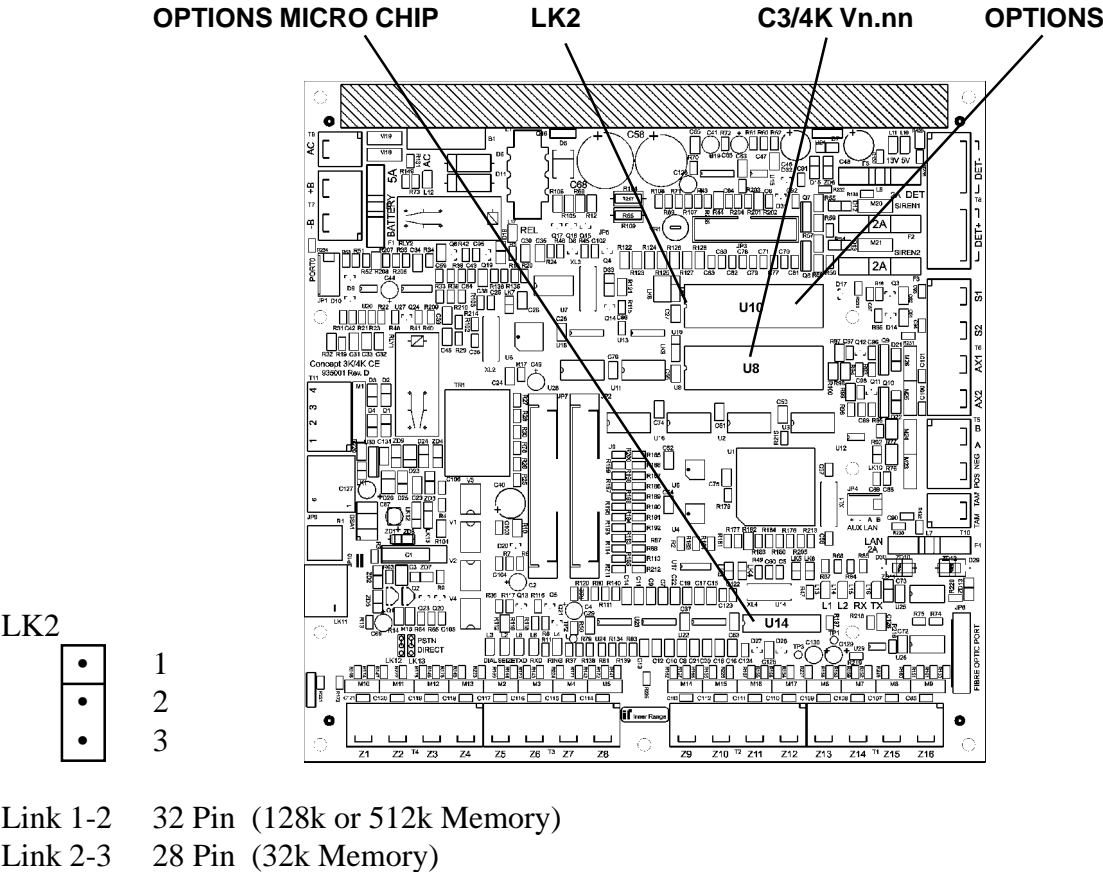


Diagram 3



Firmware Upgrade.

The following procedures must be followed in order to upgrade an existing system to Version 3.nn firmware or later. This procedure describes the Firmware Upgrade with option for Memory Expansion to be performed at the same time.

IMPORTANT NOTES:

- 1) Type 0 Control Modules. V3 firmware or later cannot be fitted in Type 0 Control Module PCB Hardware. If upgrading a system with Type 0 Control Module to Version 3 or later, the Control Module will have to be replaced with current Type 1 or Type 2 Control Module PCB or later. To check Control Module PCB Type, press <MENU> (or <MENU>, 2 if prompted for a menu option) on the LCD Terminal. The scrolling message will display "PCB: 0" if Type 0, or "PCB: 1" if Type 1, or "PCB: 2" if Type 2 (CE).
Diagrams 1, 2 and 3 on the previous pages will also assist in identifying the PCB Type. (Type 1 PCB has the square "FLASH" RAM socket. Type 2 PCB is surface mount)
- 2) Special Firmware. If special firmware is used (eg. Secure Micro, Language specific, Country specific or Distributor specific firmware etc.), the upgrade firmware must be of the same type.
See "System Information" in the Overview & Introduction section.
- 3) LAN Key Firmware.
Type 0 Control Modules: LAN Key not available.
Type 1 Control Modules: Firmware upgrades do not affect the LAN Key settings.
Type 2 Control Modules: Special LAN Key Firmware must be ordered for upgrades.
NOTE: If a Control Module with the LAN Key option is returned to the factory for service, instructions must accompany the board to indicate if the LAN Key is to be retained.
- 4) Custom Memory Configurations.
Custom memory configurations are structured for the specific Firmware Version stream fitted to the Control Module at the time the configuration was developed. Different Firmware Streams are: V1, V2, V3, V3.5, V4, V4.5.
If upgrading to a new Firmware stream, a new Custom memory configuration must also be purchased. Contact your distributor for details of the current Custom Memory configuration pricing.
If upgrading the firmware to another version within the same stream, a new custom memory configuration is not necessary. (e.g. From V3.52 to V3.61 or From V4.01 to V4.08, etc.)
To determine if a Control Module has a Custom Memory configuration, check the RAM details in the System Information screen on an LCD Terminal. e.g. RAM: 128K-CC-04.08 where "CC" is the configuration option.
If this number is 80 or greater, then the configuration is a custom configuration.
(At present, the factory configuration options are numbered 00 to 07)

PROCEDURE:

1. To maintain the existing programmed database whilst upgrading from V1 or V2 firmware to V3 firmware or later you will need a PC or Laptop loaded with:
-IRPC3 V1.02b (for upgrade from Version 1) or
-PC DIRECT V2.00c (for upgrade from Version 2)
This software is available from distributors free of charge.
2. Other Requirements:
-If upgrading to V3, PC DIRECT V3.00 (or later), or Wdirect V3.00 (or later) must be installed on the PC/Laptop.
-If upgrading to V3.5 or later, Wdirect V3.50 (or later) must be installed on the PC/Laptop.

- Programmer's manual/s of the same Version/s as the Control Module firmware.
- Previous training and experience uploading and downloading to 3000/4000 product. If you are unsure during any stage of the upgrade STOP and consult your distributor, as data may be lost.

3. Before proceeding a full upload of the system as it exists must be performed using the relevant copy of Upload/Download software. This is required in case any corruption occurs or data is accidentally lost during the upgrade process.
If V1 firmware use IRPC3 V1.02b.
If V2 firmware use PCDirect V2.00c.
If V3 firmware use PCDirect V3.00 (or later) or Wdirect V3.00 (or later)
If V3.5 firmware or later use WDirect V3.50 or later. (WDirect must not be an earlier version number than the firmware)
4. Now, using PCDirect V3.00 (or later) or Wdirect V3.50 (or later), create a new client and take a full Upload from the panel. (This is in addition to the previous Upload)
5. Power the Control Module down and disconnect the battery.
(NOTE: Damage may occur to the panel if power is not removed when changing chips).
6. IF Type 0 PCB:
 - a) If upgrading the firmware to V3 or later replace the Type 0 Control Module with a Type 1 or Type 2 Control Module that has V3.nn (or later) firmware fitted.
 - b) If upgrading the Memory size, remove the existing OPTIONS chip and RAMSIZE GAL / OPTIONS MICRO CHIP and fit the new OPTIONS and GAL / OPTIONS MICRO chips as shown in diagram 2 or 3 on the previous pages.

NB: Ensure the jumper setting of the 28/32 Pin Link on the Control Module reflects the number of pins on the RAM chip.

IF Type 1 PCB ("Concept Access 4000 REV C" or later):

 - a) If upgrading the firmware to V3, remove the existing firmware chip and fit the new V3.nn chip as shown in diagram 2 on the previous page.
 - b) If you are upgrading the Memory size, remove the existing OPTIONS chip and RAMSIZE GAL and fit the new OPTIONS and GAL chips as shown in diagram 2 on the previous pages.

IF Type 2 PCB ("Concept 3K/4K CE" or later):

 - a) If upgrading the firmware to Vn.nn, remove the existing firmware chip and fit the new Vn.nn chip as shown in diagram 3 on the previous page.
 - b) If you are upgrading the Memory size, remove the existing OPTIONS chip and OPTIONS MICRO CHIP and fit the new OPTIONS and OPTIONS MICRO chips as shown in diagram 3 on the previous pages.
7. Power the panel up and default it to the appropriate Memory Configuration <MENU>, 7, 5, 2. (If upgrading the firmware, pick the configuration best suited to the previous Version of firmware). See the Default Memory configurations tables in the "Memory Configurations" section of this manual for details of all Memory configurations.
8. NOTE: If upgrading the firmware from Version 1, the "E" type expanders in V1.nn are now "B" type expanders. All zones and relevant auxiliaries previously programmed as an "E" will be automatically converted to a "B" and saved in their original position. However, it should be noted that in most configurations in V3 there are now less "B"

type expanders than in V1.nn.

9. Set up a Comms Task in the panel for "PC Direct". If the previous database had a PCDirect Comms Task, keep the PCDirect Comms Task number in the new database the same as that of the previous database. Using the Version of WDirect (or PCDirect) used to Upload from the panel in Step 4, download the database back into the panel.
10. When communications is first initiated, it will fail on the configuration comparison. This is because V3.nn has many more structures than V1.nn or V2.nn. It may also be because you have fitted Memory Expansion. By viewing the communications report you may check the differences between the database (PC) and panel (upload configuration). As long as the panel configurations are larger than those in the database, no entries will be lost.

However, should any database in the upload configuration be smaller, entries will be automatically deleted. An example is the panel when fitted with V1.07 with a 128k ram was defaulted to Access, giving 1000 users with names. When fitted with V3.nn it was defaulted to standard which has 2000 users but only 100 with names, consequently 900 user names are deleted. This is why a backup copy is always recommended.
11. Assuming the panel has been defaulted to the best match configuration in Step 7, choose "USE UPLOAD CONFIGURATION" and then choose "Yes" at the database size warning. Once the Download is complete, a LAN initialize and Secure must be done. <MENU>, 7, 8, 1.
12. Do a complete upload into PC Direct (or Wdirect) again. This will now become the new client database for this site.

IMPORTANT: Please read the notes on Upgrading from specific Versions on the following page.

IF UPGRADING FROM V1.nn to V3.nn or later.

After the download is complete, a <MENU> 7, 8, 9 system reset must be performed. Once this has been completed a LAN initialize and Secure must be performed again.

After this is done open a new client within PC direct and do a full upload. This will set all TimeZones within the Upload to the new type.

The TimeZones must then be checked and altered by the installer to match the parameters that were set in the previous version of firmware to achieve the same operation. (TimeZone structures were changed after V1)

If this is not performed, the original TimeZone data will not be able to be viewed or edited.

Once this is achieved, a full system check must be done to ensure correct operation of the entire system and all communications. Once this is confirmed the first upload client in PC DIRECT may be deleted as it is no longer needed.

OTHER CHECKS

After upgrading from V1 or V2 to V3, check the settings of the following options to ensure they are set as required:

1. "S"ummary option in Input Programming. May be set to Yes. Set to No unless specifically required.
2. "S"ingle Hit in the Comms options in Process Groups. May be set to Yes. Set to No unless specifically required.
3. "R"eview in the "Options Access" options in Menu Groups.
New option. Will need to be set to Yes in any Menu Groups that are to allow access to Review. (MENU, 1, 1)
(Note that the "R"eview & Info Menu option in the "Menu" options, must also be set to Yes)
4. Interlock Groups assigned to Doors. Check that unwanted Interlock Groups have not been assigned.
5. Lift Programming. Check all programming for Lifts.

Function Zones

Function Zones allow certain specified Zones/Inputs to be singled out to perform special operations in addition to their normal operation. Up to 250 Function Zones may be defined, depending on the current memory size and configuration.

Function Zones are used for two main purposes:-

1. Operate an Auxiliary independent of Area (eg. unique to one or more inputs) OR turn On and/or Off an Auxiliary when the Zone/Input changes state.
2. Turn ON / OFF an Area (or Areas) when the Zone/Input changes state.

(Users of the 2000 system will recognise these functions as “Function Auxiliaries” and “Key-switch Zones” in the 2000 system).

ENABLING FUNCTION ZONES

In Order for Function Zones to operate they must be assigned to an Area that is turned ON.

Function Zones are used to trigger Auxiliaries or turn Areas On and Off by the state of a Zone. The operation of a Function Zone is independent of Area and Process Group operation. However, for a Function Zone to activate, the Zone to be used for the function must be enabled.

This is achieved by placing that Zone in an Area with a Process Group that must at least process alarms; and then ensuring that this Area is turned on. This procedure is required because all Zone Inputs on remote modules are normally in the disabled state to minimise unwanted LAN traffic.

Function Zones **cannot** be Enabled and Disabled by simply turning the Area On and Off. If the result of a Function Zone needs to be disabled from time to time, a Calculated Auxiliary which can be User controlled should be used.

Example: Use 1st and 2nd (where 1st is the Function Zone Auxiliary and the 2nd is a Home Auxiliary) to effectively prevent the result from activating. A “Close” Auxiliary in an Area could also be used in place of the Home Auxiliary to disable the result.

IMPORTANT ADDITIONAL NOTES:

V1.00 to V3.5x:

The following applies if Function Zones are programmed via a PC then downloaded to the Control Module.

The Installer must then access the Function Zone programming menu (MENU, 7, 5, 3) via an LCD Terminal and scroll through each option in each Function Zone programmed in order to enable the Function Zone.

V4.00 or later:

Any Area that has Zone Inputs assigned that are used in Function Zones must now have the “F”unction Zone Area option set to “Y”es in the Miscellaneous Area Options screen. When this option is set, when a change of state occurs on a Zone Input in that Area, the system will scan the Function Zones to check whether that Zone is used in a Function Zone and then process the Zone accordingly. *See Area Programming. MENU, 7, 1.*

It is recommended that Zones used in Function Zones are assigned to separate Areas set aside for that purpose, or to Areas that do not have a lot of Zone activity, such as a System Area.

Avoid assigning these Zones to Areas that have a lot of other Zone Inputs assigned that generate large amounts of Zone activity.

**Func. Zone to
alter: FZ001**

This screen allows a Function Zone to be selected for programming.

**FZ001 Input:
C01:Z03**

This screen allows the Installer to select what Zone/Input is going to be associated with this Function Zone. Any Zone or System Input from within the 3000/4000 system can be chosen.

**FZ001 Aux. OFof
Control -> YnnY**

This screen selects whether the Function Zone is going to be used for Auxiliary control:

O

This option turns an Auxiliary ON when the Zone/Input seals

F

This option turns an Auxiliary OFF when the Zone/Input seals

o

This option turns an Auxiliary ON when the Zone/Input un-seals

f

This option turns an Auxiliary OFF when the Zone/Input un-seals

Note that if a Toggle On/Off operation is required for use with Input devices such as spring return key switches, this can be provided by:

-Setting both of the Upper case "O" and "F" options to Yes if the toggle action is to occur when the Input changes to the seal state.

-Setting both of the Lower case "o" and "f" options to Yes if the toggle action is to occur when the Input changes to the un-seal state.

**FZ001 Output
Aux: C01:X03**

This screen allows an output Auxiliary to be chosen to operate as per the previous options selected.

**FZ001 Area OFof
Control -> YnnY**

This screen selects whether the Function Zone is going to be used for Area control:

O

This option turns Area/s ON when the Zone/Input seals

F

This option turns Area/s OFF when the Zone/Input seals

o

This option turns Area/s ON when the Zone/Input un-seals

f

This option turns Area/s OFF when the Zone/Input un-seals

Note that if a Toggle Area On/Off operation is required for use with Input devices such as spring return key switches, this can be provided by:

-Setting both of the Upper case "O" and "F" options to Yes if the toggle action is to occur when the Input changes to the seal state.

-Setting both of the Lower case "o" and "f" options to Yes if the toggle action is to occur when the Input changes to the un-seal state.

**FZ001 Use Area
List? n**

This screen selects whether an Area List, instead of a specific Area is going to be used for defining Area Control. This provides the options of Function Zone control over single or multiple Areas.

**FZ001 Arm Area ->
HOUSE**

This screen will be displayed if "Use Area List" above is set to "n". It specifies which Area will be controlled by this Function Zone according to the previous options. To select an Area press the right arrow key to scroll through all available Areas alphabetically. Press the OFF key to select no Area control.

**FZ001 Area to
Operate: A001**

The ON key may be used to change modes to allow an Area to be selected by number if desired.

**FZ001 ON List ->
Staff Areas**

This screen will be displayed if "Use Area List" above is set to "Y". It specifies which Area List will be used to determine the Area/s controlled by this Function Zone according to the previous options. To select an Area List press the right arrow key to scroll through all available Areas Lists alphabetically. Press the OFF key to select no Area List.

**FZ001 ON List
AL002**

The ON key may be used to change modes to allow an Area List to be selected by number if desired.)

Removing All programming from ALL Function Zones

There exists an easy and efficient method of removing ALL programming from ALL Function Zones. This is explained below:

Func. Zone to alter: FZ001	At the first Function Zone Programming screen press HELP, “9”.
F.Zone Default -> Don't Default	This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.
Don't Default	Selecting this option will abort the procedure.
Clear All	Selecting this option will remove ALL programming from ALL Function Zones.
Push '9' key to Confirm Default	The confirmation screen is displayed. Press the “9” Key to confirm your selection.
Default Done	The default procedure is confirmed.

Calculated Auxiliaries

Calculated Auxiliaries are a very powerful feature of the system that allows all sorts of logical actions to be set-up without external wiring or timers. Basically, a Calculated Auxiliary is an Auxiliary or Action that will turn on or off, based upon the operation of one or two other Auxiliaries. One of the simplest Calculated Auxiliaries is specifying one Auxiliary to always follow another Auxiliary.

When a Calculated Auxiliary Action controls an Auxiliary, the Auxiliary that is to be controlled is called the "Result" Auxiliary. There can be one or two Auxiliaries that control the "Result" Auxiliary. These are called the "1st" and "2nd" Auxiliaries. The type of control that you wish to use is called the "Action" that you wish to perform.

If required, the "Result" can be programmed to trigger a Zone Input instead of an Auxiliary, allowing Alarm or other Zone Input functions to be generated by Calculated Auxiliary actions.

When a Calculated Auxiliary Action controls an Area, Door, Lift Floor, Counter Reset or other process, only the 1st Auxiliary can be assigned to control the Action.

The number of Calculated Auxiliaries allowed to be defined depends upon the current memory configuration up to a maximum of 250.

Level Triggered versus Edge Triggered Calculated Auxiliaries

There are two distinct types of Calculated Auxiliaries:

1. **Level Triggered** Calculated Auxiliaries will continuously check the state of the 1st and/or 2nd Auxiliary and hold the Result in the specified state.

The Auxiliary (or Zone) assigned as the Result Auxiliary (or Zone) should never be used as the Result entity in more than one Calculated Auxiliary or attempt to be controlled by any other system function. Any attempt to control the Result Auxiliary (or Zone) via other means such as a TimeZone, Function Zone or Area Auxiliary etc, will always be overridden by a Level Triggered Calculated Auxiliary.

The Level Triggered Actions are:

- EQUAL to 1st
- OPPOSITE to 1st
- 1st AND 2nd
- 1st OR 2nd
- 1st OPPOSITE 2nd

NOTE: Auxiliary List must not be assigned to Level Triggered Actions.

2. **Edge Triggered Calculated Auxiliaries** will look for any change of state on the 1st and/or 2nd Auxiliaries and then perform the "Result" action if appropriate. No further action will be performed unless a relevant change of state occurs again on the 1st and/or 2nd Auxiliaries.

Edge Triggered Calculated Auxiliaries can therefore be used when a Result Auxiliary needs to be controlled by a variety of different means.

eg. Outdoor lighting may be turned on for 5 minutes when movement is detected outdoors OR the Garage Door is opened OR an alarm is activated. The same outdoor lighting may be turned on permanently when a Home Auxiliary is turned on OR the "Holiday" TimeZone is valid.

Calculated Auxiliary Actions

Action	Operation	Trigger Type	Introduced
None	Result Aux is not affected.		
EQUAL to 1st	Result Aux will be held ON if 1st Aux is ON. Result Aux will be held OFF if 1st Aux is OFF. 2nd Aux has no effect.	Level	V1
OPPOSITE to 1st	Result Aux will be held ON if 1st Aux is OFF. Result Aux will be held OFF if 1st Aux is ON. 2nd Aux has no effect.	Level	V1
ON if 1st ON	Result Aux will turn ON if 1st Aux turns ON. Result Aux will not be affected if 1st Aux turns OFF. 2nd has no effect.	Edge	V1
OFF if 1st OFF	Result Aux will turn OFF if 1st Aux turns OFF. Result Aux will not be affected if 1st Aux turns ON. 2nd has no effect.	Edge	V1
ON if 1st OFF	Result Aux will turn ON if 1st Aux turns OFF. Result Aux will not be affected if 1st Aux turns ON. 2nd has no effect.	Edge	V1
OFF if 1st ON	Result Aux will turn OFF if 1st Aux turns ON. Result Aux will not be affected if 1st Aux turns OFF. 2nd has no effect.	Edge	V1
1st OR 2nd	Result Aux will be held ON if 1st Aux OR 2nd Aux is ON. Result Aux will turn OFF when the 1st Aux and 2nd Aux are both turned OFF.	Level	V1
1st AND 2nd	Result Aux will be held ON if 1st Aux AND 2nd Aux are ON. Result Aux will turn OFF if either the 1st Aux or 2nd Aux are turned OFF.	Level	V1
1st OPPOSITE 2nd	Result Aux will be held ON if 1st Aux is opposite state to 2nd Aux. Result Aux will turn OFF if the 1st Aux and 2nd Aux are in the same state. (XOR - Exclusive OR)	Level	V1
Area Control	Area or Area List, as programmed on a separate screen, will turn ON and/or OFF when the Auxiliary turns ON and/or OFF according to the option programming. (2nd Aux is not used)	Edge	V1
Amnesty +ON	Every User's current location is set to "Not found" (ie. Outside the access system) whenever the 1st Auxiliary is turned ON. (2nd Aux is not used). This provides User Amnesty for Anti-passback. By tying the 1st Auxiliary to TimeZone, Area, Home Auxiliary etc, that item can, via the Calculated Auxiliary, control when Amnesty is granted. When Amnesty is granted, a review message is saved once for all users.	Edge	V1
Amnesty -OFF	Every User's current location is set to "Not found" (ie. Outside the access system) whenever the 1st Auxiliary is turned OFF. (2nd Auxiliary is not used) See description above.	Edge	V1
Lock on +ON	Lock all Doors in the specified Door List (turn off door lock Auxiliaries) whenever the 1st Auxiliary turns ON. (2nd Auxiliary is not used) This provides a very useful feature for general door control. By tying the 1st Auxiliary to TimeZone, Area, Home Auxiliary, Function Zone etc, that item can, via the Calculated Auxiliary, lock and/or unlock Doors.	Edge	V1
Unlock on +ON	Unlock all Doors in the specified Door List (turn on door lock Auxiliaries) whenever the 1st Auxiliary turns ON. (2nd Auxiliary is not used) See description above.	Edge	V1
Lock on -OFF	Lock all Doors in the specified Door List (turn off door lock Auxiliaries) whenever the 1st Auxiliary turns off. (2nd Auxiliary is not used) See description above.	Edge	V1

Action	Operation	Trigger Type	Introduced
Unlock on -OFF	Unlock all Doors in the specified Door List (turn off door lock Auxiliaries) whenever the 1st Auxiliary turns off (2nd Auxiliary is not used) See description above.	Edge	V1
Secure on +ON	Secure all Floors in the specified Floor List for a specified Lift Car (turn all relevant floor Auxiliaries ON) whenever the 1st Auxiliary turns ON. (2nd Auxiliary is not used) Along with the three following options, this provides a very useful feature for general lift control. By tying the 1st Auxiliary to TimeZone, Area, Home Auxiliary, Function Zone (keyswitch, etc, that item can, via the Calculated Auxiliary, Secure and /or provide free access to floors. If a Calculated Auxiliary attempts to upgrade floor button Auxiliaries whilst a lift is being accessed by a User, the Calculated Auxiliary action will be deferred until the end of the button time.	Edge	V1
Free on +ON	Provide Free Access to all Floors in the specified Floor List for a specific Lift Car (turn all relevant floor Auxiliaries off) whenever the 1st Auxiliary turns ON (2nd Auxiliary is not used). See description above.	Edge	V1
Secure on -OFF	Secure all Floors in the specified Floor List for a specified Lift Car (turn all relevant floor Auxiliaries On) whenever the 1st Auxiliary turns Off. (2nd Auxiliary is not used). See description above.	Edge	V1
Free on -OFF	Provide Free Access to all Floors in the specified Floor List for a specific Lift Car (turn all relevant floor Auxiliaries Off) whenever the 1st Auxiliary turns Off (2nd Auxiliary is not used). See description above.	Edge	V1
Area Cnt=0 +ON	This function allows the Area Count for a specified Area to be cleared whenever a pre-defined Auxiliary is turned ON. (This will not alter the state of the Count Auxiliary)	Edge	V2
Area Cnt=0 -OFF	This function allows the Area Count for a specified Area to be cleared whenever a pre-defined Auxiliary is turned OFF. (This will not alter the state of the Count Auxiliary)	Edge	V2
ON / OFF with 1st	Result Aux will follow (mimic) changes of state on the 1st Aux (Combination of "ON if 1st ON" and "OFF if 1st OFF".) It is Different from "EQUAL to 1st" as this Action is Edge Triggered.	Edge	V2
Ripple Counter	Auxiliaries in Result Auxiliary List will be triggered in turn on 1st Auxiliary action according to the Result Auxiliary List options. Only the "F" and "o" options are relevant. The Auxiliary timer option ("O" and "M") can also be used with this action. An Auxiliary List MUST be used with at least the first Auxiliary defined.	Edge	V2
Event Cnt=0 +ON	This allows the defined counter to be reset to a value of "0" when the defined Auxiliary is turned ON.	Edge	V3
Event Cnt=0 -OFF	This allows the defined counter to be reset to a value of "0" when the defined Auxiliary is turned OFF.	Edge	V3
Reset Alarms +ON	Causes the "ON key Lockout" function to be reset for all Areas that have transmitted an alarm in the last arming period and are now turned Off (disarmed). Provides for remote reset via STU output pin, DTMF control or GSM modem, etc. <i>See "No ON key Lockout" in the General System options for more information.</i>	Edge	V4.5 Used with "UK" firmware ONLY.

Calculated Aux.
to alter: CA001

This screen allows a Calculated Auxiliary to be selected for programming.

CA001 Action ->
EQUAL to 1st

This screen selects the manner in which the Result Auxiliary or another action will be controlled by the other two Auxiliaries. Use the right arrow key to select the desired action. The next screen to be displayed will depend upon the action selected. Press OFF to set to "None" or refer to the previous table for option details.

CA001 Trigger
Zone ? n

This screen is displayed if one of the Auxiliary logic actions are selected. It allows the Programmer to select whether the Calculated Auxiliary action will trigger an Auxiliary or a Zone Input.

CA001 Result
Aux: C01:X03

If "Trigger Zone" above is set to "n", this screen is displayed to allow the Programmer to select the Auxiliary or Auxiliary List that is going to be controlled by the 1st and/or 2nd Auxiliaries in the Calculated Auxiliary logic.

In the instances where the Result Auxiliary is not actually used, (Amnesty, Area Control & Door/Lift Control actions) this screen is not displayed. Any Auxiliary on any module that is currently present in the system can be chosen.

To assign an Auxiliary List, press the ON Key.

CA001 Result OFof
XList Opts: nnnn

This screen selects the manner in which the Auxiliary List will be controlled. See "Auxiliary List Programming" MENU 2,3,6 for further details.

CA001 Result Aux
List: XL002

This screen allows the Programmer to select the Auxiliary List that is going to be controlled by other Auxiliaries in the Calculated Auxiliary logic.

NOTE: Auxiliary Lists must **not** be assigned to Level Triggered Calculated Auxiliary Actions.

Phantom Auxiliaries

A number of spare Control Module Auxiliaries exist which do not have any outputs. (C01:X11 to C01:X32) These can be useful in Calculated Auxiliary programming as an intermediate or phantom Auxiliary when using a number of Calculated Auxiliaries to perform a function and should be always be used before any other Auxiliaries are used (for faster processing).

Eg. When cascading Calculated Auxiliaries to create a Boolean expression with more than two inputs, such as;

C01:X04 AND C01:X07 AND E02:X03 = T02:X02,

the following two Calculated Auxiliaries could be programmed:

Function	1st	2nd	Result
1st+2nd	C01:X04 AND C01:X07		= C01:X28
1st+2nd	C01:X28 AND E02:X03		= T02:X02

CA001 Trigger
Zone: C01:Z01

If "Trigger Zone" above is set to "Y, this screen is displayed to allow the programmer to select the Zone Input that is going to be controlled by the Calculated Auxiliary logic. Any Zone Input on any module that is present in the system can be chosen. (Avoid using System Inputs)

When “Trigger Zone” is used, the Zone Input will go into Alarm when the Calculated Auxiliary Result is On and will Restore when the Result is Off. When in alarm, the Input will be processed in exactly the same way as any other Zone Input.

For a Trigger Zone to function correctly the Zone Input must be assigned a Process Group, programmed into an Area and the Area must be On.

As a general rule, when a Zone is used in a Calculated Auxiliary it should not be used as a wired Zone and when a Zone is used as a wired Zone it should not be used in a Calculated Auxiliary.

If the selected Zone Input is also a wired Zone Input, the state of the input will momentarily be determined by the Calculated Auxiliary but will then resort back to the physical state of the input. To prevent this from occurring, the use of wired Zone Inputs in Calculated Auxiliaries should firstly be avoided and secondly, the “Calculated Zone” flag should be set to “Y” within the Input’s Programming options. This option causes all physical changes of state on the Zone Input to be ignored.

Advanced Programmers may wish to note that, under exceptional circumstances, Edge Triggered Calculated Auxiliaries may be used to cause a wired Zone Input to **momentarily** change its state. This momentary change of state may, in turn, be used to start an Auxiliary Timer or similar. This is achieved by leaving the “Calculated Zone” flag set to “n” in the Zone’s Programming options.

Area Control Option

If “Area Control” was selected above, the following screens will be displayed before the screens for programming the “1st” and “2nd” Control Auxiliaries.

CA001 Area OFof
Control: nYYn

This screen selects how the Calculated Auxiliary is going to be used to turn an Area or Areas On and/or Off:

- | | | |
|---|------------------|--|
| O | ON when Aux Off | Set means turn Area/s ON when 1st Auxiliary turns Off |
| F | OFF when Aux Off | Set means turn Area/s OFF when 1st Auxiliary turns Off |
| o | ON when Aux On | Set means turn Area/s ON when 1st Auxiliary turns On |
| f | OFF when Aux On | Set means turn Area/s OFF when 1st Auxiliary turns On |

CA001 Use Area
List? n

This screen selects whether an Area List, instead of a specific Area, is going to be used for defining Area Control. This provides the options for Calculated Auxiliary control over single or multiple Areas.

If “Use Area List” above is set to “n”, the following screen will be displayed.

CA001 Arm Area ->
HOUSE

CA001 Area to
Operate: A001

This screen specifies which Area will be controlled by this Calculated Auxiliary according to the previous option. To select an Area press the right arrow key to scroll through all the available Areas alphabetically. Press the OFF key to select no Area control. (The ON key may be used to change modes to allow an Area to be selected by number if desired).

If "Use Area List" above is set to "Y", the following screen will be displayed.

CA001 ON List
AL002

This screen specifies the Area List that will be used to determine the Area/s controlled by this Calculated Auxiliary according to the previous options. To select an Area List, programme the Area List number with the digit keys and the left and right arrow keys. Press the Off key to select no Area List.

Door Control Options

If a "Lock..." or "Unlock..." action was selected as the function, the following screen will be displayed before the screens for programming the 1st and 2nd Control Auxiliaries.

CA001 Door List
DL003

This screen specifies the Door List that will be used to determine the Door/s controlled by this Calculated Auxiliary according to the action selected. To select a Door List, programme the Door List number with the digit keys and the left and right arrow keys. Press the OFF key to select no Door List.

Lift Control Options

If a "Secure on ..." or "Free on ..." action was selected as the function, the following screen will be displayed before the screens for programming the 1st and 2nd Control Auxiliary.

CA001 Lift Car
to use: LC002

This screen specifies the Lift Car that will be controlled by this Calculated Auxiliary. To select a Lift Car, programme the Lift number with the digit keys and the left and right arrow keys. Press the OFF key to select all Lift Cars (LC000).

CA001 Floor List
FL004

This screen specifies the Floor List that will be used to determine the Floor button enable auxiliaries controlled by this Calculated Auxiliary according to the action selected. To select a Floor List, Programme the Floor List number with the digit keys and the left and right arrow keys. Press the OFF key to select no Floor List. Only floor button enable Auxiliaries that belong to the Lift Car specified above will be controlled by this Calculated Auxiliary.

Clear Area User Count Options

If either of the "Area Cnt=0" actions were selected as the function, the following screen will be displayed.

CA001 Area ->
STRONG ROOM

This screen selects the Area that will have the counter cleared according to the action selected. Use the right arrow key to scroll through the list of Areas or press the On key to select an Area by number.

Clear Event Counter Options

If one of the "Event Cnt=0" actions was selected as the function, the following screen will be displayed before the screens for programming the 1st and 2nd Control Auxiliaries.

CA001 Counter ->
Camera 1 Film

This screen allows the programmer to specify the counter which will be reset by the function.

Control Auxiliaries

CA001 1st
Aux: C01:X03

This screen allows the User to select the 1st Auxiliary that is going to be used to control the Result Auxiliary. Any Auxiliary can be chosen in the 3000/4000 system.

CA001 2nd
Aux: C01:X03

This screen allows the User to select the 2nd Auxiliary that is going to be used to control the result Auxiliary. Any Auxiliary can be chosen in the 3000/4000 system. For many selected actions the 2nd Auxiliary will be ignored.

CA001 Result OM
Aux Options nn

This screen allows the Installer to programme various Result Auxiliary timer options: Do not use the timer options if assigning an Auxiliary List as the Result Auxiliary. If timing is required, use Auxiliary Timers (MENU 5, 5).

O Override Time

If set to “Y”, the timing parameters associated with this function will over-ride any existing timing condition that is currently running on the Auxiliary.

M Minute Timer

If set to “Y”, the time period specified in the following screen will be in minutes. If left at “n”, the time will be in seconds.

CA001 Result Aux
Time: 000 sec/min

This option allows the Calculated Auxiliary action to be timed. To enable the timer option, programme the time period in seconds or minutes (As specified above). To disable the timer option, ensure the time period is set to 000.

NOTE:

1. Over-ride times have no effect if the Result Auxiliary is controlled by a Level Triggered Action.
2. Do not use the timer options if assigning an Auxiliary List as the Result Auxiliary. If timing is required, use Auxiliary Timers (MENU 5, 5).

Removing All programming from ALL Calculated Auxiliaries

There exists an easy and efficient method of removing ALL programming from ALL Calculated Auxiliaries. This is explained below:

Calculated Aux
to alter: CA001

At the first Calculated Auxiliary Programming screen press HELP, “9”.

C.Aux Default ->
Don't Default

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will remove ALL programming from ALL Calculated Auxiliaries.

Push '9' key to
Confirm Default

The confirmation screen is displayed. Press the “9” Key to confirm your selection.

Default
Done

The default procedure is confirmed.

Home Auxiliaries

Home Auxiliaries are specific Auxiliaries within the 3000/4000 system that are meant to be used by Users directly in day to day operations. To make operation of these Auxiliaries easier and more user-friendly, a name can be assigned to them. The number of Home Auxiliaries is dependant on memory size and configuration up to a maximum of 250.

A Home Auxiliary can be controlled by a Zone Input, if required, allowing facilities such as lighting and Air-conditioning to simultaneously execute a number of control options.

Example: Outdoor lighting is controlled from an LCD Terminal as well as a push button switch.

See “Home Auxiliaries” in the Application Programming section and “Home Auxiliaries for Zones” in Process Group Programming [MENU 2,4,3].

Home Aux. to
program: HA001

Find Home Aux ^
POOL PUMP

This screen allows a Home Auxiliary to be selected for programming. By pressing the ON Key, the operator is allowed to search alphabetically for a Home Auxiliary name using the digit keys and the up and down arrows.

HA001 Name:
POOL PUMP

HA001 Aux:
C01:X03

A name can be assigned to each Home Auxiliary up to 16 characters long. Naming your Home Auxiliaries is recommended as it makes system administration easier and also simplifies operation for the end user.

This screen allows the User to select the Auxiliary to be allocated to this Home Auxiliary. Any Auxiliary within the 3000/4000 system can be chosen.
Alternatively, press the On Key to assign an Auxiliary List.

HA001 OFof
XList Opts: nnnn

If the On Key has been pressed at the previous screen and an Auxiliary List is to be assigned, this screen is then displayed. At this point the Installer can determine the operation of the Auxiliary List.

- | | | |
|---|----------------------|---|
| O | List ON if HAux On | Set means turn Auxiliary List On when the Home Auxiliary turns On. |
| F | List OFF if HAux On | Set means turn Auxiliary List Off when the Home Auxiliary turns On. |
| o | List on if HAux Off | Set means turn Auxiliary List on when the Home Auxiliary turns Off. |
| f | List off if HAux Off | Set means turn Auxiliary List on when the Home Auxiliary turns Off. |

HA001 Aux:
List: XL000

This screen allows the Installer to specify the Auxiliary List to be turned On and /or Off as per the previous screen.

HA001 12345678
Type -> YnYnnnnn

This screen allows a type to be assigned for this Home Auxiliary. The type is used in conjunction with User Type programming to determine which User (Types) are allowed to control which Home Auxiliaries from the main control menu.

HA001 TS.....
Options-> nnnnnnnn

This screen sets Home Auxiliary options:

T Toggle from Keypad

If set to "Y", the Home Auxiliary may be toggled ON and OFF by pressing any arrow key on any LCD Terminal in the system, when NOT logged on. Once a User has logged onto a Terminal, the arrow keys will behave in the normal manner and cannot be used to toggle the Auxiliary.

NOTE: The LCD Terminal must have the "Home Aux" option set to Yes in the "Logged Off" options.

S SMS Control

This option is currently not used. Leave set to "n".

Air Conditioning Control

Air Cond. to
program : AC001

NOTE:
Control Module Firmware must be
V2.00 or later.

Introduction

The ACCESS 4000 can control a number of air conditioning units depending on memory configuration. Each air conditioning unit can service up to 8 individually controlled air conditioning zones. Each air conditioning zone has its own thermostat and its own zone damper which controls air flow into that air conditioning zone. The thermostats can either signal warm air, cool air, dead-band (halfway between warm and cool) or off. The individual zone dampers can be closed, not supplying air, or open and supplying air. The Access 4000 reads the thermostats via zone inputs, one zone input per thermostat. Zone dampers are controlled by Auxiliary outputs, one Auxiliary output per zone damper.

The system is controlled by four special control inputs connected via four nominated concept zone inputs. The state of these zones tells the air conditioning system how it should behave.

The compressor sub-system is controlled by five nominated Auxiliary outputs. These outputs signal when the compressor should be on and whether heating or cooling is required.

An optional bypass damper may be provided which allows a proportion of air to by-pass the main compressor/fan when the number of zones requiring air drops below a certain number. The damper is controlled via an Access 4000 Auxiliary.

An optional fresh air damper and fresh air thermostat may be provided. If the fresh air temperature is more optimum for heating/cooling, the fresh air damper will be opened. The fresh air thermostat connects via an Access 4000 zone whilst the damper is controlled via an Access 4000 Auxiliary.

Inputs and Outputs

Zone Damper	A motorised vane within a duct to control air flow to an air conditioned “zone”. When the auxiliary is on, power is applied to the motor which closes the damper, preventing air flow into the zone.
Bypass Damper	A motorised vane within a duct to control air flow around the compressor unit. When the Auxiliary is on, power is applied to the motor which closes the damper, causing all air to pass through the compressor sub-system. When the bypass damper is open, a proportion of air passes around the compressor.
Fresh Air Damper	A motorised vane within a duct to control fresh air flow into the compressor sub-system. When the Auxiliary is on, power is applied to the motor which closes the damper, causing all air to be recirculated air. When the fresh air damper is open, a greater proportion of fresh air is used.
Exhaust Air Damper	A motorised vane within a duct to control whether returned air is re-circulated or exhausted. When the auxiliary is on, power is applied to the motor which closes the re-circulate damper and opens the exhaust damper, causing air to be exhausted.
Zone Thermostat	<div><div>A device to measure the temperature of an air conditioned zone and input temperature to the Access 4000 via a zone input. The thermostat is wired such that:</div><div><div>Cool temperature</div><div>Warm temperature</div><div>Dead-band</div></div><div><div>-</div><div>-</div><div>-</div></div><div><div>zone will be sealed</div><div>zone will be in alarm</div><div>zone will be in tamper mode</div></div></div>

Fresh Air Thermostat A device to measure the temperature of fresh air to deduce whether the fresh air damper should be open or closed. Wired the same way as zone thermostats.

Dead-band The state of a thermostat when it is signalling neither warm or cool air.

Compressor On/Off Input An input to the compressor sub-system connected to an Access 4000 Auxiliary. When the Auxiliary is on, the compressor is on.

Compressor Reverse Cycle On/Off An input to the compressor sub-system connected to an Access 4000 Auxiliary. When the Auxiliary is on, reverse cycle heating is selected. When the Auxiliary is off, compressive cooling is selected.

Compressor Fan On/Auto Input An input to the compressor sub-system connected to an Access 4000 Auxiliary. When the Auxiliary is on, the fan turns on continuously. When the Auxiliary is off, the fan will only turn on when the compressor is on.

System On/Off Input A three state zone input used to control the system. The states are:

Zone sealed	-	Compressive cooling allowed
Zone in alarm	-	Compressor Heating allowed
Zone in tamper	-	Compressor Off

In Industrial Mode, cooling or heating is allowed when the zone is not in tamper.

Recirculated/Fresh Input A three state zone input used to control fresh or recirculated air selection. The states are:

Zone sealed	-	Select recirculated air
Zone in alarm	-	Select fresh air
Zone in tamper	-	Select fresh/recirculated air automatically.

Fan Mode Input A 3 state zone input used to control fan operation. The states are:

Zone sealed	-	Turn fan on continuously (ventilation)
Zone in alarm	-	Turn fan on in "Heat Pump" mode
Zone in tamper	-	Fan controlled automatically.

Programming

Programming is carried out under the Installer System menu. After entering the Installer code, press MENU, 7, 5, 6 to access air conditioning module programming.

**Air Cond. To
program: AC001**

This screen selects which air conditioning module you wish to programme. The number of air conditioning modules available depends on configuration. (Pressing the up arrow will select the maximum module number, telling you how many modules are present).

**AC001 Mode ->
Disabled**

This screen selects the overall operating logic mode for this air conditioning module. The table below summarised the modes:

Disabled No control performed.

Industrial	Selects a mode suitable for industrial situations where the compressor can swap between heat and cool automatically. The fan is on all the time to provide continuous ventilation.
Domestic	Selects a mode suitable for domestic situations where the compressor can only heat or cool as selected. The fan is only on when the compressor is on unless a ventilate only mode is selected.

AC001 Min. On Time: 000 min	This screen allows the compressor minimum on time to be selected in minutes. The compressor will remain on for this time regardless of whether heating or cooling is still required. See the compressor manufacturer's specifications for this value.
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AC001 Min. Off Time: 000 min	This screen allows the compressor minimum off time to be selected in minutes. The compressor will remain off for this time regardless of whether heating or cooling is required. See the compressor manufacturer's specifications for this value.
---------------------------------	---

AC001 Number of Zones: 0	This option sets the number of individual zones that this air conditioning unit will control, i.e. number of thermostats fitted (excluding fresh air). It may be set to between 1 and 8 zones.
-----------------------------	--

AC001 Return Air Zone: 0	This option sets which zone has the return air duct. If this option is left at zero then the air duct is not associated with any particular zone. If it is set to a valid zone, the zone damper can be forced to remain open with the "force return air zone" option. Additionally, defining this zone allows domestic heat pump mode to be implemented.
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AC001 Zones for Bypass: 0	This option sets the minimum number of zone dampers that can be open before the compressor bypass damper will be closed. If less than this number of zone dampers are open, the bypass damper output will turn off thus opening the bypass damper to lessen air flow from the fan. If this option is left at 0, the bypass damper will remain closed.
------------------------------	---

AC001 DTFN Options nnnn	This screen allows special options to be set up for the current air conditioning module. A "Y" under the option enables the option. The available options are listed below:
--------------------------------------	---

D	Domestic Heat & Cool	Selects a mode for domestic situations where the compressor can swap between heat and cool automatically. As with normal "Domestic" mode operation, the fan is on only when the compressor is on unless a ventilate only mode is selected.
T	Terminals	Enabling this option allows the air conditioning to be controlled by nominated LCD Terminals instead of control inputs. The control inputs will be ignored, except for the fresh air thermostat. (See Terminal Programming for additional options that must be set)
F	Free Return Air	Enabling this option will cause the zone damper for the return air zone to always remain open, as long as it has been defined for a valid air conditioning zone.
N	No Review	Enabling this option will prevent review messages from being saved for any damper or control auxiliary changes. This may be useful if review memory is limited and other review activity such as security information is more important.

AC001 Zn Damper
Aux: C01:X01

This screen defines the starting Auxiliary for the zone dampers. Any Auxiliary within the Access 4000 system can be nominated as long as there are enough consecutive Auxiliaries on the module for the number of zones required. When the Auxiliary is on, the damper should be closed. The zone damper auxiliaries run in the order zone1, zone2 etc.

AC001 Control
Auxes: :X

This screen defines the starting Auxiliary for the control Auxiliary outputs. Any Auxiliary within the Access 4000 system can be nominated as long as there are at least 8 consecutive Auxiliaries on the selected module. The table below shows the order of the outputs and what they control.

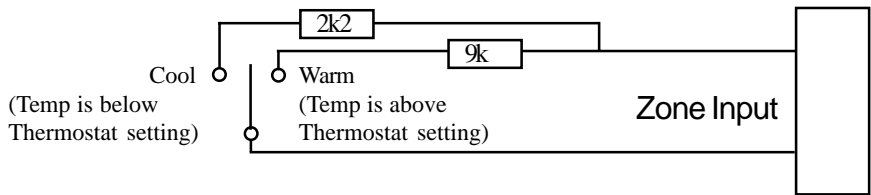
Output Auxiliary	Auxiliary On	Auxiliary Off
Compressor	Turn compressor on.	Turn compressor off
Reverse Cycle Valve	Select Reverse Cycle Heating	Select Cooling
Recirculate/Fresh	Select fresh air	Select recirculated air.
Fan On/Auto	Turn on fan continuously	Fan controlled by compressor On/Off
Bypass Damper	Close bypass damper	Open bypass damper
Exhaust Damper	Exhaust re-circulated air	Re-circulate air
Disable Auxiliary	Disable air conditioner	Allow air conditioning
Smoke Auxiliary	Implement smoke mode	Allow normal operation

The air conditioning module does not control the Disable and Smoke Auxiliaries. These Auxiliaries are manipulated by other tasks in order to control the air conditioning module.

AC001 Thermostat
Inputs: C01:Z01

This screen defines the starting zone input to connect to the individual zone thermostats. Any zone within the Access 4000 system can be nominated as long as there are enough consecutive zones remaining on the selected module for the number of thermostats required. The thermostats are wired so that:

Thermostat Cool	=	Seal condition. (2k2)
Thermostat Warm	=	Alarm condition (9k [2k2+6k8])
Thermostat Dead-band	=	Tamper condition (Open Circuit)
Thermostat Off	=	Tamper condition



AC001 Control
Inputs: C01:Z01

This screen defines the starting zone input to connect to the control zone inputs. Any zone within the Access 4000 system can be nominated as long as there are a minimum of 4 consecutive zones available on the selected module. The following table shows the order of the control inputs and the manner in which they operate:

Input	Seal	Alarm	Tamper
Fresh Air Thermostat	Fresh air is cool.	Fresh air is warm.	Fresh air is neither warm or cool.
Heat/Cool Control	Heat/Cool allowed if industrial mode and TimeZone above is valid. Cool only allowed in domestic mode, irrespective of TimeZone.	Heat/Cool allowed in industrial mode or Heat only allowed in domestic mode.	No compressor operation is allowed.
Recirc/Fresh Control	Use recirculated air only.	Use fresh air only.	Automatic selection of fresh/recirculated air based upon fresh air thermostat.
Fan On/Auto Control	Fan on continuously.	Selects domestic heat pump mode.	Fan operation determined by compressor.

NOTES:

1. If the "T" (Terminal) option is set in the DTFN screen above, these inputs are ignored with the exception of the fresh air thermostat.
2. Every Zone Input and Control Input to be used must be assigned to a physical or virtual Area and that Area must be turned on. Failure to do so will result in the system being unable to sense the status of these inputs and the air conditioning not operating properly.

**AC001 T.Zone ->
DAYTIME**

This screen allows an optional TimeZone to control the on/off operation of the air conditioning system in **Industrial Mode only** when the on/off zone input is in the sealed condition. The system is considered on when the TimeZone is valid.

**AC001 ZnX Area->
WAREHOUSE**

This screen allows an optional Area to be assigned to each of the 8 possible air conditioning zones. When an Area is assigned it allows:

- Individual On/Off control of each zone via an LCD Terminal.
- Individual On/Off control based upon the Alarm4 Auxiliary of the Area.

Refer to the "Building Automation" section of this Manual for further details.

**AC001 12345678
Aux On nnnnnnnn**

This screen specifies whether an air conditioning zone will be enabled every time the Alarm4 Auxiliary turns on in the associated Area above.

Refer to the "Building Automation" section of this Manual for further details.

**AC001 12345678
Aux Off nnnnnnnn**

This screen specifies whether an air conditioning zone will be disabled every time the Alarm4 Auxiliary turns off in the associated Area above.

When the "T" Terminal control option is set, the individual air conditioned zones can be enabled or disabled via the LCD screen. In Industrial Mode, however, there are no inputs to allow individual enable/disable control of individual zones.

Whenever the air conditioner mode is set to disabled, all 8 zones are reinstated. This allows individual area control via Alarm4 auxiliaries to be used even if the "T" Terminal control option is not set, and still provides an "override" to reinstate all 8 zones.

Operating Modes

Industrial Heating/Cooling

A/C Mode	=	Industrial
Heat/Cool Control.	=	On or Off
Recirc/Fresh Control.	=	Auto
Fan Mode.	=	Not Used

If the Heat/Cool control is on, the fan will turn on and compressor operation is allowed. If the Heat/Cool control is off, the fan will turn off, all zone dampers will open and the compressor and reverse cycle valve will be off.

Recirculated air will be used unless the fresh air thermostat indicates warm air and heating is required or the fresh air thermostat indicates cool air and cooling is required. (Recirculate/Fresh can be forced if desired using the Recirc/Fresh control).

Zone dampers will close if the zone gets too hot and heating is on or if the zone gets too cool and cooling is on, otherwise the zone dampers will be open, providing fan ventilation.

The bypass damper will be closed unless the number of closed zone dampers drops below the minimum bypass zones, in which case the bypass damper will open.

The Compressor will turn on and reverse cycle valve will turn on/off if any zone requires heating or cooling. The compressor will remain on, heating or cooling until no zone indicates that it is too cool/hot. At this time the reverse cycle will toggle state if the reverse of heat/cool is required, otherwise the compressor will turn off.

Domestic Heating/Cooling

Mode	=	Domestic
Heat/Cool Control.	=	Heat/Cool
Recirc/Fresh Control.	=	Auto
Fan Mode.	=	Auto

If the Heat/Cool control is set to Heat then compressive heating will be allowed. If the Heat/Cool control is set to Cool then compressive cooling will be allowed. The compressor itself will control the fan.

Recirculated air will be used unless the fresh air thermostat indicates warm air and heating is required or the fresh air thermostat indicates cool air and cooling is required. (Recirculate/Fresh can be forced if desired using the Recirc/Fresh control).

Zone dampers will close if the zone gets too hot and heating is on or if the zone gets too cool and cooling is on, otherwise the zone dampers will be open.

The bypass damper will be closed unless the number of closed zone dampers drops below the minimum bypass zones, in which case the bypass damper will open.

The Compressor will turn on and reverse cycle valve will turn on/off if any zone requires heating and Heat is selected or if any zone requires cooling and Cool is selected. The compressor will remain on, heating or cooling until no zone indicates that it is too cool/hot. At this time the compressor will turn off.

Domestic Ventilation

Mode	=	Domestic
Heat/Cool Control.	=	Off
Recirc/Fresh Control.	=	Recirc/Fresh/Auto
Fan Mode.	=	On

In this mode all zone dampers will be open and the fan is on continuously. All zone dampers are open providing ventilation air to all zones. Recirculated air will be used unless the Recirculate/Fresh control is set to Fresh. No compressor operation is allowed.

Domestic Heat Pump

Mode	=	Domestic
Heat/Cool Control.	=	Off
Recirc/Fresh Control.	=	Auto
Fan Mode.	=	Heat Pump

This mode is used when the return air zone is defined and contains another source of heat such as a wood heater. This mode allows heat from the return air zone to be “pumped” to other cooler zones without using the compressor for additional heat.

The return air zone damper will be forced open and if the return air thermostat indicates warm air in the return zone then the fan will turn on, providing air circulation in the return air zone and allow warm air to be pumped to other zones. If the setting of the return air thermostat indicates cool air, then the fan will turn off.

All other zone dampers will be open unless they indicate they are too hot, in which case the zone damper will close. The bypass damper will operate as in other modes and the fresh air damper will be closed.

Air-conditioning control via the LCD Terminal

The Air-conditioning module can now be programmed to be controlled via nominated LCD terminals. Instead of overall air-conditioning control being done by switches connected to nominated zone inputs, pushing the Left Arrow Key on nominated “logged off” terminals gives access to screens to allow:

- Individual A/C zone control by Area names
- Overall on/off control
- Control of fan settings
- Control of ventilation settings

Air-conditioning Areas

The relationship between air-conditioned zones and security Areas can be defined by allowing a security Area to be associated with an air-conditioned zone in Air-conditioning Module Programming. This allows:

- Individual A/C zone on/off control via an LCD Terminal, selecting the A/C zone to control by Area name;
- The Alarm4 Auxiliary in the associated Area attached to an A/C zone can also be programmed to enable or disable the A/C zone. This allows the A/C zone to be controlled by Area functions such as detection of movement or the absence of movement for a pre-defined time.

Disable Auxiliary

When the Disable Auxiliary is turned on, the air conditioning will turn off. When the Disable Auxiliary is turned off, the air conditioning will turn on. This is particularly useful for turning the air conditioning off whilst an area or system is secure and back on again when the area or system is in access.

This feature may also be used to immediately shut down all air conditioning auxiliaries, fans and dampers in the event of fire or other such emergency.

Smoke Auxiliary

If the nominated smoke auxiliary turns on (normally as the result of a smoke alarm) the air conditioner is placed in exhaust smoke mode. In this mode, irrespective of whether the unit is currently on or off, the following settings are adopted:

- The fan is turned on.
- All zone dampers are opened.
- The re-circulated air is exhausted
- The fresh air is selected.
- The compressor is turned off

The mode is designed to provide fresh air to all zones and attempt to clear all zones of smoke.

Example of Air-conditioning Integration

Turn on the air conditioner when there is any movement in the air-conditioned area. Turn off the air conditioner when there has been no movement in the air-conditioned area for 30 minutes. If a nominated area is turned on, then turn off the air conditioner.

Program a dummy area as follows:

- Instant siren mode.
- A dummy siren auxiliary.
- Alarm4 auxiliary = Siren auxiliary.
- No siren list.
- Siren time = 30 minutes.
- Zone processing only activates sirens, with re-trigger mode set.

Program security area as follows:

- A dummy close auxiliary = Air conditioner disable auxiliary.

Program air conditioner module as follows:

- Assign dummy area to the appropriate air-conditioned zone to control.
- Enable "auxiliary-On" and "auxiliary-off" options for the appropriate A/C zone.

A variation on the above is to turn on the air conditioner manually, but automatically turn it off. Simply don't enable the "auxiliary-On" option in air conditioner programming.

Allow lights to be turned on or off via nominated switches. Implement "N-way" switching where desired (i.e. a light may be controlled by any number of switches).

Whenever a security area is turned on, turn off any lights that are on in that area.

Turn on and off specified security lights with a time zone.

During the night only, allow movement in certain areas to turn on specified lights and when no movement in that area is detected for 10 minutes turn off specified lights. Allow the automatic off to be overridden easily at the keypad when required.

Review Messages

The review memory can be used to track all logic decisions made by an air conditioning module. All auxiliary output changes are normally saved to review unless nominated otherwise. To aid in tracking logic flow, when auxiliaries are operated via the air conditioning module, a phrase is appended to end of the review entry to indicate what auxiliary is being controlled:

<u>Phrase</u>	<u>Meaning</u>
(Zone Damper)	A zone damper auxiliary has been operated. (On = damper close)
(A/C Unit)	The compressor has been turn on/off
(R/Cycle)	Compressive heating (auxiliary on) or cooling (auxiliary off) selected
(Fan)	Fan has been turn on (auxiliary on) or in auto mode (auxiliary off)
(Fresh)	Fresh air damper has been opened (auxiliary on)
(Bypass)	Bypass damper has been closed (auxiliary on)
(Exhaust)	The exhaust output has bee turned on.

Changes to the zone and fresh air thermostats and the control inputs are not recorded to review unless they are in an area and the area is turned on.

ALL RELEVANT ZONES MUST BE PLACED IN AN AREA AND THE AREA TURNED ON.

For zone thermostats and control inputs, the seal, alarm and tamper states must be interpreted appropriately.

Home Zone Programming

There are no screens within the 3000/4000 that allow alpha searching of Zone names. This is because names are up to 24 characters in length and spread over a number of different databases, making searching very difficult. This presents a problem if a user is manually isolating zones because they have to understand the Zone naming convention, type, module number and zone number.

eg. B03:Z11, M12:Z06, etc.

Home Zones are designed to overcome this problem. They are fundamentally the same as Home Auxiliaries in that they provide an easy way to assign text to a Zone for the purpose of isolation and they are programmed in a very similar fashion.

Home Zone to
program: HZ001

This screen allows the Installer to select a Home Zone for programming.

HZ001 I.....
Opts -> nnnnnnnn

This screen allows various options to be set for this Home Zone.

- I Isolate
- . Spare

If set to "Y", this Home Zone may be Isolated via MENU 3.

Spare for future development.

HZ001 Input ?
C01:X01

This screen specifies the Input to be assigned to this Home Zone. Use the DIGIT Keys to enter the Module number and the Zone Input number in the standard convention.

HZ001 Name:
Rear Fire door

This screen allows the Installer to specify a name for this Home Zone. This will be the text displayed when a Home Zone user accesses MENU 3 to isolate one or more Zones.

NOTE:
In larger systems it would be impossible to create a HomeZone for every Zone in the system. There may be many hundred of Zone Inputs but the HomeZone database is currently limited as follows:

- 0-16 in 32K Memory Configurations
- 16-64 in 128K Memory Configurations
- 32-128 in 512K Memory Configurations

If HomeZones are required, use the available HomeZones for Zones that are most likely to be need in alpha-search functions such as Input Isolate.

Counter Programming

The Counter feature allows Inputs on the Mini Zone Expander ("M" Type - Version 3.0 or later) to be used as Counter Inputs. The Counter Inputs can be used for 2 trigger point counting, tollgate style counting functions and tariff counting. At this time, Version 3 firmware allows the use of 2 Trigger Point counting only.

Counter to
program: CR001

This screen allows the Installer to select a Counter to programme.

CR001 Name:
.Counter 001

This screen allows a 16 character name to be assigned to this Counter. These names can be searched for alphabetically when selecting a counter to display under the information screens [MENU 1,4] "Read Count".

CR001 Input ?
C01:Z01

This screen allows the Installer to define the Input that is to be used for this counter.

- Note:**
1. At this time, only Mini Zone Expander Zone Inputs can be used for counters.
 2. Mini Zone Expander Zone type must be set to "Counter". (Refer Mini Expander Programming [MENU 7,2,6])
 3. Mini Zone Expander must be fitted with version 3.0 or later module firmware.

CR001 Type ->
2 Trg Points

This screen allows the Counter Type to be selected. The purpose of the counter, as set by its Type, will determine the manner in which the counter will operate.

Counter Type
2 Trg Points

CR001 Trigger Count1: 00000000
CR001 Trigger Count2: 00000000

Description
The operation of this Counter Type is only relevant when used with Mini Zone Expander inputs. The Trigger Count 1 and Trigger Count 2 values are downloaded and stored in the Mini Expander. The states of the Zone Input and the corresponding Zone Extra System Input are dependent upon the relationship between the actual count and the preset Trigger Count1 and Trigger Count2 values. The states of the inputs, in turn, determine the resultant course of action. (Refer to the section on the Mini Zone Expander for further information [MENU 7,2,6]).

This screen allows an 8 digit trigger count to be defined. Its function depends upon the Counter Type above.
This screen allows a 2nd 8 digit trigger count to be defined. Its function depends upon the Counter Type above.

CR001 ..4D Options -> nnnn

This screen allows the Installer to programme a number of Counter options.

- | | | |
|---|----------|--|
| . | Spare | Spare for future development. Set to "n". |
| 4 | 4 digits | If set to "Y", only the lower 4 digits will be displayed when viewed via MENU 1, 4. |
| D | Display | If set to "Y", this option enables this counter to be viewed via MENU 1, 4.
NOTE: The 1st counter (CR001) is always displayed, regardless of the (D)isplay option. |

Count Display

The count display is accessed via MENU 1, 4. Every 2 seconds the display is refreshed by reading the appropriate count from the relevant module.

NOTE: No indication is given if the module is absent.

Count Adjustment

The count can be adjusted (and updated in the relevant module) via MENU 9, 6. This operation requires the Menu Group (A)djust option to be set in the "Access Options" and the (C)ontrol option set to Yes in the "Main Menu Options".

Clearing the Counter

A counter may be cleared by using the adjust menu and setting the count value to "0". Alternatively, there are 2 Calculated Auxiliaries (Event Cnt=0+ON, Event Cnt=0-OFF) which automatically clear the count when an ON or OFF operation is detected on the 1st Auxiliary.

C-Bus Auxiliaries

IMPORTANT NOTE
Menu location for C-Bus Auxiliaries has altered to provide for additional automation interfaces.

Version 4.5 or later.
C-Bus Auxiliaries programming is now accessed via:
MENU, 7, 5, 9, 1

Version 4.
C-Bus Auxiliaries is accessed via:
MENU, 7, 5, 9

Note: C-Bus Auxiliaries are only available in Type 2 (CE) Control Module Hardware and V4.00 Firmware or later.

A Clipsal C-BUS PC interface can be connected to a serial UART Port on the Control Module. The Control Module must be fitted with 512k (4MBit) Memory expansion which currently allows up to 64 C-Bus Auxiliaries to be defined, depending on the memory configuration chosen.

The connection between the UART Port and C-Bus PC interface is made using the C-Bus Interface Cable, Part Number 993013.

A “C-Bus” Comms Task must be programmed to establish communications between the Control Module and the C-Bus PC interface.
See Comms Task programming, MENU, 7, 3, 1 and Comms Task Formats: Comms 23 - C-Bus.

C-Bus Auxiliaries can provide the following functions:-

- 1. Cause nominated C-Bus output devices to turn on, turn off, or ramp on/off to a specified level as defined 3000/Access 4000 Auxiliaries turn on or off.
- 2. Update the state of defined 3000/Access 4000 Auxiliaries as C-Bus functions turn C-Bus output devices on or off within the C-Bus network.
- 3. Save C-Bus activity to the 3000/Access 4000 Review Memory.
- 4. Allow two separate applications to be controlled simultaneously. e.g. Lighting and Heating.

Each C-Bus Entry allows a single 3000/Access 4000 Auxiliary to be defined and programmed as to how it will operate in conjunction with the C-Bus system.

**CBus Entry
to alter: CB001**

This screen allows a C-Bus Entry to be selected for programming.

**CB001 2.....AR
Opts -> nnnnnnnn**

This screen allows various C-Bus options to be selected:

2 2nd Application.

If set to “Y”es, the 2nd Application option specifies that this Auxiliary is to be associated with the 2nd Application programmed in C-Bus Comms Task programming. If set to “N”o, the Auxiliary will be associated with the 1st Application.

A Alarm feedback.

If set to "Y"es, the Alarm feedback option allows the state of the Auxiliary defined below to be updated by associated C-Bus activity. Associated C-Bus activity will be those C-Bus commands that have the same "Application" and "On/Off Group Address" as defined in this C-Bus Entry.

-An ON command with the same "On Group Address" will turn the Auxiliary On.
-An OFF command with the same "Off Group Address" will turn the Auxiliary Off.

-A RAMP command with the same "On Group Address" will turn the Auxiliary Off if the final Ramp level is below the "Threshold" defined below.

-A RAMP command with the same "On Group Address" will turn the Auxiliary On if the final Ramp level is equal to, or above, the "Threshold" defined below.

For the Alarm Feedback option to function:

- 1) The "Review" option in the C-Bus Comms Task options screen must be set to Yes (MENU, 7, 3, 1).
- 2) The "Save to Review" option in Auxiliary Timer programming (MENU, 5, 5) must be set to Yes for the Auxiliary defined as the C-Bus Auxiliary in the next screen.

(The factory default for this option is "Yes")

Note that when the Auxiliary is turned On or Off via C-Bus activity, no C-Bus commands will be output as a result of that action.

R Re-send.

If set to "Y"es, the Re-send option causes the On/Off commands assigned to this C-Bus Entry to be sent even if the Auxiliary does not change state. e.g. If an Auxiliary is already On and an 3000/Access 4000 operation attempts to turn on the Auxiliary again, the On command will be re-sent to the C-Bus network.

CB001 Auxiliary
— :X

This screen allows the Installer to select which Auxiliary is going to be associated with this C-Bus Entry. Any Auxiliary from within the 3000/4000 system can be chosen.

CB001 On Cmd
NONE

This screen defines which C-Bus operation is to be initiated when the Auxiliary defined above turns On:

None

No C-Bus command will be sent.

ON

A C-Bus ON command will be sent to the "On Group Address" defined below.

OFF

A C-Bus OFF command will be sent to the "On Group Address" defined below.

Ramp Period. (16 available)

A C-Bus RAMP command for the "ramp period" selected will be sent to the "On Group Address" defined below. The ramp periods available are:

0 s, 4 s, 8 s, 12 s, 20 s, 30 s, 40 s, 1 m,
1.5 m, 2 m, 3 m, 5 m, 7 m, 10 m, 15 m, 17 m.

Note that the "On Ramp Level" below must also be set.

CB001 On Group
Address: 000

This screen sets the C-Bus Group Address that will be operated by the "On Command" defined above. The address is programmable in decimal digits from 000 to 255.

**CB001 On Ramp
Level: 000**

This screen is required if a RAMP command has been selected from the "On command" screen above. The final level for the RAMP command can be programmed in decimal digits from 000 to 255.

e.g If a Ramp command of 20s is selected above, and an On Ramp Level of 64 is programmed, the resultant command will cause the C-Bus Group Address defined to ramp to 25% of full voltage over 20 seconds.

**CB001 Off Cmd
NONE**

**CB001 Off Group
Address: 000**

**CB001 Off Ramp
Level: 000**

These screens define:

- Which C-Bus operation is to be initiated,
- Which "Off Group Address" will be operated,
- And the desired "Off Ramp Level" (if a RAMP command is selected) when the Auxiliary defined above turns Off.

These screens are programmed in exactly the same manner as the "On Command" screens above.

**CB001 Ramp
Threshold: 000**

This screen is required if the "A"larm feedback option has been selected earlier. The Ramp Threshold setting is used to determine whether the Auxiliary should be turned On or Off when a RAMP command is received from the C-Bus network.

- If the final ramp level of the RAMP command is lower than this threshold, the Auxiliary will turn Off.
- If the final ramp level of the RAMP command is equal to, or higher than, this threshold, the Auxiliary will turn On.

Dynalite Auxiliaries

A Dynalite Lighting Controller can be connected to a serial UART Port on the Control Module.

IMPORTANT NOTES:

- 1) Dynalite Auxiliaries are only available in Type 2 (CE) Control Module Hardware and V4.50 Firmware or later.

The Control Module provides Automation (Dynalite) Auxiliaries as follows:

512k (4MBit):	Up to 64 depending on memory configuration chosen.
128k (1MBit):	Up to 16 depending on memory configuration chosen.
32k	NO Automation Auxiliaries provided.

The connection between the UART Port and the Dynalite Lighting Controller is made using the Model 3000/Access 4000 Modem Cable (P/N: 993027) and an RS232 - RS485 Converter.
The Rx, Tx, RTS and Gnd connections are utilized in the Modem Cable. (RTS is used to control DE on the RS485)

A “Dynalite” Comms Task must be programmed to establish communications between the Control Module and the Dynalite Controller.
See Comms Task programming, MENU, 7, 3, 1 and Comms Task Formats: Comms 26 - Dynalite.

A Dynalite Auxiliary provides for a nominated Dynalite Area to turn on or off over a timed period as defined 3000/Access 4000 Auxiliaries turn on or off.

Each Dynalite Entry allows a single 3000/Access 4000 Auxiliary to be defined and programmed as to how it will operate in conjunction with the Dynalite system.

Dynalite Entry
to alter: DN001

This screen allows a Dynalite Entry to be selected for programming.

DN001 R
Opts -> nnnnnnnn

This screen allows various Dynalite options to be selected:

R Re-send.

If set to “Y”es, the Re-send option causes the On/Off commands assigned to this Dynalite Entry to be sent even if the Auxiliary does not change state. e.g. If an Auxiliary is already On and a 3000/Access 4000 operation attempts to turn on the Auxiliary again, the On command will be re-sent to the Dynalite network.

DN001 Auxiliary
— :X

This screen allows the Installer to select which Auxiliary is going to be associated with this Dynalite Entry. Any valid Auxiliary from within the 3000/4000 system can be chosen.

DN001 On Area
Address: 000

This screen defines which Dynalite Area the Auxiliary "ON" Command will control. The Area Address is programmable from 000 to 255.

See the Dynalite product documentation for more information on Area addresses.

DN001 On
Preset: 000

This screen sets the Dynalite Preset that will be operated by the Auxiliary "ON" command. The Preset is programmable from 000 to 255.

Note that the Preset value programmed here does not correspond to the actual Dynalite Preset value.

See the table on page 3 for details of the programmed and actual Presets.

See the Dynalite product documentation for more information on Presets.

DN001 On Fade
Rate: 00000

This screen sets the period of time the Dynalite Controller will take to reach the "On" Preset level defined above.

This value is programmed between 00000 and 65535 in 20 milliSecond increments. e.g. A programmed value of 100 = 2000 milliSeconds = 2 Seconds.

See the table on Page 3 for more examples of Fade rate periods.

DN001 Off Area
Address: 000

This screen defines which Dynalite Area the Auxiliary "OFF" Command will control. The Area Address is programmable from 000 to 255.

See the Dynalite product documentation for more information on Area addresses.

DN001 Off
Preset: 000

This screen sets the Dynalite Preset that will be operated by the Auxiliary "OFF" command. The Preset is programmable from 000 to 255.

Note that the Preset value programmed here does not correspond to the actual Dynalite Preset value.

See the table on page 3 for details of the programmed and actual Presets.

See the Dynalite product documentation for more information on Presets.

DN001 Off Fade
Rate: 00000

This screen sets the period of time the Dynalite Controller will take to reach the "Off" Preset level defined above.

This value is programmed between 00000 and 65535 in 20 milliSecond increments. e.g. A programmed value of 100 = 2000 milliSeconds = 2 Seconds.

See the table on Page 3 for more examples of Fade rate periods.

Presets

The programmed Preset does not correspond directly to the actual Dynalite Preset Value.
This table shows the Value to be programmed for the actual Dynalite Preset required.

Actual Preset	Programmed Preset		Actual Preset	Programmed Preset		Actual Preset	Programmed Preset
1	0		23	50		45	37
2	8		24	58		46	45
3	16		25	3		47	53
4	24		26	11		48	61
5	32		27	19		49	6
6	40		28	27		50	14
7	48		29	35		51	22
8	56		30	43		52	30
9	1		31	51		53	38
10	9		32	59		54	46
11	17		33	4		55	54
12	25		34	12		56	62
13	33		35	20		57	7
14	41		36	28		58	15
15	49		37	36		59	23
16	57		38	44		60	31
17	2		39	52		61	39
18	10		40	60		62	47
19	18		41	5		63	55
20	26		42	13		64	63
21	34		43	21			
22	42		44	29			

Fade Rates

This table shows some useful examples of the value to be programmed for various Fade Rate periods.

Fade Rate	Programmed Value		Fade Rate	Programmed Value		Fade Rate	Programmed Value
00	00000		1.5Sec	00075		12Sec	00600
20mS	00001		2Sec	00100		15Sec	00750
100mS	00005		2.5Sec	00125		20Sec	01000
240mS	00012		3Sec	00150		30Sec	01500
300mS	00015		4Sec	00200		1Min	03000
500mS	00025		5Sec	00250		2Min	06000
720mS	00036		7.5Sec	00375		5Min	15000
1Sec	00050		10Sec	00500		10Min	30000

Door Programming

The following screens allow programming of an individual Door. A number of pre-defined times may be set by default for each Door (Max. Door Open Time of 30 seconds and Lock Open Time of 5 seconds.) Door Auxiliaries are also cleared.

The procedure to reset Door Programming to the factory default is explained in more detail at the end of this chapter.

Door to
Alter: D001

This screen allows a Door to be selected for programming, allowing the User to jump to the selected Door or search for a particular Door by name. Pushing the up/down arrows selects the previous/next door.

Find Door ^
FRONT DOOR

The maximum number of doors in any system is determined by the memory configuration.

Door numbers are allocated in LCD Terminal and/or Reader Module programming. If these options have already been programmed, you may need to refer to those options to see what Door numbers you need to programme. Alternatively, the Doors can be programmed here first and then the appropriate Door numbers allocated to the Terminal/s and Reader Module/s later.

Door . 001 Name
REAR FIRE DOOR

This screen allows an optional Door name to be entered up to 16 characters long. It is recommended that names be programmed to simplify programming of the other options where Doors are allocated.

D001 Inside ->
None

These screens allow the Installer to define which Areas are on the inside and outside of the Door being programmed. To select an Area, press the right arrow key to scroll through all available Areas alphabetically. Press the OFF key to select no Area. (The ON key may be used to change modes to allow an Area to be selected by number, if desired).

D001 Inside
Area: A000

D001 Outside ->
None

If the Area on one side of the Door is not within the system's control, set the Area to None by pressing the Off Key or alternatively, if selecting the Area by number, set the Area to A000.

D001 Outside
Area: A000

For example, in the case of an external Door in a Warehouse, the outside Area might be a region that is not protected or monitored by the system. This Area should be set to None (A000). If a User were to leave via this door using a card, pin or proximity card or fob, the system would not need to monitor the User's movements, other than identifying that the User is no longer in an Area that is monitored by the system.

The inside Area would be that Area sought to be protected if the Door were secured. In the same above example, the inside Area for the Warehouse external Door might be "WAREHOUSE".

It is not compulsory to assign Areas to a Door, however, in doing so the following advantages become available:

- Allow anti-passback rules to be enforced.
- Keep track of where Users are.
- Prevent exit/entry if Areas are ON.
- Automatically turn OFF Areas, if allowed.
- Automatically turn Area/s On when exiting, if allowed.

See "Anti-Passback & Wrong Area processing" & "Reader Area Control" in the Applications Programming section.

**D001 Acc.Group->
CARD USER**

This screen allows the User to assign an Access Group to this Door. The Access Group programming will determine how access works at this Door.

**D001 Access
Group: AG002**

**D001 Lock
Aux: R01:X01**

This screen allows an Auxiliary output to be specified that will operate the Door lock associated with this Door. If a Control Module Auxiliary is chosen to operate a Door Lock, the Auxiliary timer units must be set to seconds. For all other Module types the Auxiliary timer is completely independent from the lock open time. (See next screen).

Lock Auxiliaries

It is recommended that the following Auxiliaries be used as Lock Auxiliaries:

Single Door & 2 Door Access Modules:

1st Door	Rxx:X01
2nd Door	Rxx:X04

LCD Terminal	Txx:X01
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Intelligent 4 Door Access Module: (Lock Auxiliaries shown must be used)

1st Door	Ixx:X01
2nd Door	Ixx:X02
3rd Door	Ixx:X03
4th Door	Ixx:X04

**D001 Lock Open
Time: 005 s/0.1s**

This screen determines the time for which this Door will be un-locked during a normal access event. This value is programmable from 0 to 255 Seconds.

IMPORTANT NOTES:

- 1) A value of "000" causes the Door to un-lock indefinitely. The Door must then be re-locked by another operation. (e.g. MENU.9.2, TimeZone, etc.)
- 2) The Lock Open Timer is independent of the "Auxiliary Timer" for the Lock Auxiliary. Normally, the "Lock Open Time" is the only timer that needs to be programmed for the Lock Auxiliary. However, if any other operation is to be used to momentarily unlock the Door, the Auxiliary Timer [MENU 5,5] for the Lock Auxiliary should also be programmed. (Unless the actual operation already includes a timer).

Fast Lock Open Time option.

(Only available in Intelligent 4 Door Access Module firmware V1.08 or later.)

The "Lock Open Time" defined in Door programming is normally specified in Seconds. e.g. A Lock Open Time of "5", will activate the Lock Auxiliary for 5 Seconds. In some installations, the Lock Open Time needs to be shorter than 1 second. e.g. When providing a short pulse output to trigger a special access device such as a turnstile system.

An option is available to allow an Intelligent 4 Door Access Module to process the "Lock Open Time" as 100 milli-Second increments instead of 1 Second increments.

e.g.
-Lock Open Time of “5”, will activate the Lock Aux. for 500 mS. (5 x 100mS)
-Lock Open Time of “50”, will activate the Lock Aux. for 5 Sec. (50 x 100mS)
This is done by setting Switch 8 on DIPswitch 2 to the ON position.
When set, the Lock Open Time will then be processed as 100 milli-Second increments for all 4 Doors on that particular Module.
See the Intelligent 4 Door Access Module installation manual for location of DIPswitch.

Only Modules with the DIPswitch set to ON will process the Lock Open Time in this way. Any other Modules with the DIPswitch left in the OFF position, will process the Lock Open Time in the normal manner as 1 second increments.

D001 Max. Open
Time: 000 sec

This screen determines the maximum time this Door may be left open before creating a “Door Open Too Long” (Door Held Open) alarm. The “Door Open Too Long” alarm is a System Input generated from the LCD Terminal or Reader Module associated with the Door. This time is programmable from 1 to 255 seconds.

Note: In earlier 2 Door Reader Modules (Part no: 993012) configured for “2” Door mode, the “Maximum Door Open Time” set for the 1st Door on the Module was utilized as the Max. Door Open Time for both Doors.

All current Access Modules allow the Max. Door Open time to be defined and operate separately for each Door.
i.e. 995012-2 Door Access Modules and Intelligent 4 Door Access Modules.

D001 E.....
Opts -> nnnnnnnn

This screen allows the Installer to programme various Door options.

E Extra Area Counting

This option allows the User count in the User’s “Extra Area” to be incremented/decremented when the User is granted access through this door.

If the reader is on the “Outside”, the User count is incremented in the User’s Extra Area.

If the reader is on the “Inside”, the User count is decremented in the User’s Extra Area.

No “count” or “Arm on count = 0” will occur on the Door Areas when this option is enabled.

. Spare

Spare for future use. This option must be set to “n”.

Door Interlocking

ACCESS 4000 ONLY

The Access 4000 model supports convenient Door Interlocking without the need to programme Calculated Auxiliaries or Function Zones. Every Door can have an Interlock Group assigned to it. When a Door has an Interlock Group assigned, access through the Door may be further qualified by the programming of that Interlock Group. Doors can share Interlock Groups if required. The number of Interlock Groups programmable depends upon the memory configuration.

Special Note:
In order for the 4000 system to correctly sense the state of the door reed switches, these zones should be placed in an Area which is left on permanently with a benign Process Group.

D001 Interlock
Group: IL000

This screen allows an optional Interlock Group to be assigned to the Door. If the group is left at zero, access will not be denied through this Door due to an Interlock violation, although this door can participate in Interlock decisions for other Doors. If an Interlock Group is specified, it must be programmed to determine the Interlocking rules.

Interlock to
program: IL001

To programme Interlock Group options, press HELP, “9”.

Door Interlocking Programming

This screen selects which Interlock Group to programme. The number of Interlock Groups depends on the memory configuration.
See the Applications Programming section for further details.

IL001 T.Zone ->
None

This screen allows a TimeZone to be applied to this Interlock Group. If a TimeZone is defined and is valid, this Interlock Group will be active; that is Interlock logic will be applied. If a TimeZone is invalid then either the Interlock Group will not be active and no Interlock logic will be applied or, if an alternative group is defined, that group will be used.

IL001 Alt.
Interlock: IL000

This screen defines an alternative Interlock Group to use if the TimeZone is invalid.

IL001 ZT.....
Opts-> nnnnnnnn

This screen allows certain Interlock Group options to be programmed:

- Z

Zone Inputs

If this option is set to “Y”, an optional Zone Input can be used to qualify Interlock operation.
- T

Tongue Sense

If this option is set to “Y”, Tongue Sensing is used in addition to qualify the Interlock operation.
Note: Do not set to “Y” if Tongue sense inputs not connected. If set to Yes when not used, & Input/s are not sealed, Interlock logic will not allow Doors to un-lock.
- .

Spare

Spare option for future development. Leave set to “n”.

IL001Door List

DL001

This screen allows an optional list of Doors to be selected from the available Door Lists which will be used in Interlock Decisions. If the list is left at 000, no other doors will prevent doors with this Interlock Group from working. If a Door List is defined, all Doors in the list must be locked (Door Auxiliary must be off) and all Doors must be closed (Door Zones must be sealed).

All Door Contact (Reed switch) Zone Inputs used in Door Interlock functions must be assigned to an Area that is always On (24 Hrs) so that the Zone state is always known by the Control Module.

- ie.
- Rxx:Z01

For 1st Door on a Reader Module
- Rxx:Z05

For 2nd Door on a Reader Module
- Txx:Z01

For a Door controlled and monitored by an LCD Terminal.

When assigning these Zones to an Area use a Process Group programmed for this purpose that simply monitors for the (A)larm state but does no other processing. (ie. No other Comms Auxiliary or Siren options).

IL001Area List

Area

This screen allows an optional list of Areas to be selected from the available Area Lists which will be used in Interlock decisions. If the list is left at 000, the state of no Areas will prevent Doors with this Interlock Group from working. If an Area List is defined, all Areas in the list must be off to allow access through Doors with this Interlock Group.

IL001Qualify

Aux: :X

This screen allows an optional Auxiliary to be defined which will be used in Interlock decisions. If an Auxiliary is defined then the Auxiliary must be On to allow access through Doors with this Interlock Group.

IL001Qualify

Zone: C01:Z01

This screen allows an optional Zone to be defined which will be used in Interlock decisions. If the “Z” option above is set to “Y”, this input must be sealed to allow access through the Doors with this Interlock Group.

When programming of Interlock Group is complete, return to Door Programming by pressing HELP, “0”.

Door Defaulting

Two options are available by which to default Door Programming to factory settings. These are explained below:

Door to
alter: D001

At the first Door Programming screen press HELP, "9".

Door Default ->
Don't Default

This screen is then displayed. Available defaulting options are viewed by pressing the right Arrow Key. To make a selection, press the OK Key.

Don't Default

Selecting this option will abort the procedure.

Clear All

Selecting this option will reset all Door configuration times to zero.

Door names, if present, are not altered.

Standard

Selecting this option will reset selected Door configuration times as follows:

Lock Open Time 5 seconds

Max. Open Time 30 seconds

Door names, if present, are not altered.

Push '9' key to
Confirm Default

The confirmation screen is displayed. Press the "9" Key to confirm your selection.

Default
Done

The default procedure is confirmed.

1. Secure LAN

MENU, 7, 8, 1

Secure LAN is a special operation the installer carries out after all LAN modules have been commissioned and tested. The purpose of Secure LAN is to tell the system that the LAN modules that are currently present are the only ones that are going to be in this system and to seal LAN fail inputs on other modules that are not present in this system. This will remove the "Had Network Problem" message that will always be present if the modules present do not match the modules that were present when a "Secure LAN" was last carried out.

In addition, "Secure LAN" will automatically generate a secret encryption key that will be copied to all modules in the network at the time of secure LAN. This secret encryption key is used to guard against covert module substitution. If communication with a module is lost temporarily, a "Module Lost" and "Module Found" message will be saved in review along with an alarm/restore on the appropriate LAN fail input for that module. If the module was powered down during the communication loss, an additional message will appear in review. This may be treated by some operators as a suspected module substitution.

**Push "9" key to
Confirm Secure**

Press the "9" key at the prompt to perform the "Secure LAN" function.

It is recommended that Installers carry out a LAN Secure each time they have had reason to work on the LAN or LAN Modules and that it be conducted immediately prior to leaving the site.

The LAN Secure operation also performs a LAN Init operation at the same time. See Initialise LAN [MENU 7,8,2].

2. Initialise LAN

MENU, 7, 8, 2

Initialise LAN results in the system sending initialisation data to all modules. This must be carried out if changes have been made to the module priorities or module poll times as these new settings will not be recognised until a LAN initialisation has been performed.

This operation must also be carried out if the Installer has made changes to any Module Programming (e.g. LCD Terminal or Reader Module Programming, etc.), or any programming relating to Module functions such as Door Programming, Diary Programming or similar.

**Push "9" key to
Init LAN**

Press the "9" key at the prompt to perform the "Initialise LAN" function.

3. LAN Statistics

MENU, 7, 8, 3

The LAN statistics menu provides an advanced utility for LAN debugging. The quality of the LAN can be measured and an indication of system loading also obtained.

Lan Stat 001:1
00000000

Due to the complexity of diagnostic information available and the requirement of anecdotal comparison figures, this utility should only be used under the instruction of the Distributor.

See the “Installation and Troubleshooting” section for more information on the LAN.

9. System Reset

MENU, 7, 8, 9

The Reset operation performs a software reset of the system. It fundamentally simulates a power down and power up procedure on the Control Module.

This procedure should only ever be performed when advised by the Distributor as part of an upgrade or similar.

Having reset the system, a LAN Secure [MENU 7,8,1] must also be performed.

See the "Installation and Troubleshooting" section for more information on the LAN.

Lift Car Programming***(ACCESS 4000 Only)***

Each Lift Car to be controlled must be individually programmed.

Lift Car to
alter: LC001

This screen allows the Installer to select the Lift Car to programme.
A Lift Car cannot be assigned a text name.

LC001 Acc.Grp ->
None

This screen determines what access options will be applied to this lift car in exactly the same way access groups are applied to doors. Pressing the On key, allows selection by Access Group number. Setting the access group to None (directly or via a time-zone) will prevent any floors being accessed from this lift car.

LC001 Access
Group: AG001

LC001 Floor List
FL000

This screen determines whether certain floors will be restricted for this lift car. If this screen is non-zero then only floors belonging to this list can be accessed from this lift car. If this screen is left at zero then floors are not restricted by Lift Car. Note that if the screen is set to a non zero list but the list is cancelled due to a time-zone then floor access will be denied.

LC001 number of
floors: 000

This screen sets the "top floor" to be accessed by this lift car. Up to 64 floors may be accessed.

LC001 1st Floor
Aux: :X

This screen allows the Installer to set the first floor Auxiliary. "Floor button enable" auxiliaries start at this auxiliary and run in sequence up to the "top floor" specified above. For example if the 1st floor Auxiliary was set to E01:X12 and the number of floors was set to 5 then the auxiliaries controlled by this lift car are:

E01:X12 controls floor 1 button enable for this lift.
E01:X13 controls floor 2 button enable for this lift.
E01:X14 controls floor 3 button enable for this lift.
E01:X15 controls floor 4 button enable for this lift.
E01:X16 controls floor 5 button enable for this lift.

Note that if the required number of auxiliaries over-runs the 1st module then the auxiliary 1 of the next module is automatically used.

This screen must be left blank if using a High Level Interface for this lift.

LC001 Valid
Aux: :X

This screen is only used in button feed back mode and specifies the Auxiliary that will be turned on for the button time (see below). It must be specified in button feedback mode.

LC001 Error
Aux: :X

This screen is only used in button feedback mode and specifies the Auxiliary that will be turned on if an illegal button is pushed. (It should have a time associated with it to turn it off automatically).

LC001 But.Area->
None

If this screen is left at "None", no button feedback is used. Alternatively if this screen is non zero, then this determines which Area is to be used for lift button feedback processing for this Lift Car. This is the Area to which all button Inputs relating to this Lift Car are assigned for the purposes of button feed back processing.

IMPORTANT NOTE: A separate Area must be used for each Lift Car.

**LC001 Button
Time: 000 sec**

This screen specifies the maximum time the floor buttons remain active for a normal user. It is programmable from 5 to 255 seconds. At the end of this time all auxiliaries are returned to their free access/secure state.

**LC001 Disabled
Time: 000 sec**

This screen specifies the maximum time the floor buttons remain active for a user type with the "disabled" flag set.

**LC001 Unused
Floors: 000**

This screen allows auxiliary outputs/zones to be saved when a lift car doesn't start at floor 1. For example if a lift starts at floor 14, then this screen should be set to 13. If the 1st floor auxiliary was set to B19:X01 then the 14th floor Aux should be connected to B19:X14 but auxiliaries between B19:X01 to B19:X13 are available for other temporary uses and will not be manipulated by this lift car.

**LC001 EMS ID
Group/Lift: 00**

This screen allows this lift to be controlled via high level interface and determines which EMS group and lift car represents this lift.

A setting of zero disables this lift from working with the high level interface.

The 1st digit is the EMS group and must be programmed between 1 and 8 inclusive.

The 2nd digit is the EMS lift car and must also be programmed between 1 and 8 inclusive.

The Floor Auxiliary should be zero and an EMS Comms Task should be running.

**LC001, Floor 01->
None**

These screens allow an optional area to be applied to each floor. Normally these screens are left at "None". Use the right arrow key to scroll the available Areas. The OK button moves the user to the screen for the next floor. The left arrow key goes back to the previous screen.

COMMS TASK FORMATS

This section provides programming information for specific Comms Task formats.

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Contact ID Input Point Mapping Summary Tables	4
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<u>Comms Format</u>	<u>Introduced</u>	<u>Section Number Index</u>
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Answer Call	V1	Comms- 2
PC Direct	V1	Comms- 3
IRfast Dialer	V1	Comms- 4 *
Contact ID Dialer	V1	Comms- 5 *
EMS	V3	Comms- 6
EarthNet Direct Line	V1	Comms- 7 *
Securitel	V1	Comms- 8
Printer	V1	Comms- 9
External Modem	V1	Comms-10
Inet	V3.5	Comms-11 *
Accept	V2	Comms-12
Poll Data	V3	Comms-13 *
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IRfast Backup Dialer	V1	Comms-15 *
CID Backup Dialer	V1	Comms-16 *
GSM	V3.5	Comms-17 *
SpreadNet Wireless Interface	V2	Comms-18
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8 Pin	V4.5	Comms-22
C-Bus Serial Interface	V4	Comms-23
Inovonics Wireless Interface	V4	Comms-24
PosData DVR	V4.5	Comms-25
Dynalite	V4.5	Comms-26

* IMPORTANT NOTE:

Please refer to Pages 3 and 4 for information on Contact ID Input Mapping, relevant to programming options in the following Comms Tasks formats:

-IRfast Dialer	Comms- 4
-Contact ID Dialer	Comms- 5
-EarthNet Direct Line	Comms- 7
-Inet	Comms-11
-Poll Data	Comms-13
-IRfast Backup Dialer	Comms-15
-CID Backup Dialer	Comms-16
-GSM	Comms-17

Contact ID Mapping

Any Comms Task that has the ability to send data in the Contact ID format provides the ability to select the "Contact ID Map" that will provide the most suitable Input mapping for the site.

The following screen is used to determine the input mapping for the Comms Task.

**CT001 Mapping ->
Standard**

In order to cater for different types of system configurations within the limitation of the number of points available in the Contact ID format, several input mapping options have been provided as follows:

- Standard
- MAP-1
- School 30
- School 19
- SIMS II
- Access-1 (V3 or later)
- Pacom (V3 or later)
- Standard-2 (V3.5 or later)
- School 19B (V3.59 or later).

The major differences between the maps currently available are as follows:

Standard	<p>LCD Terminal Zones are reported on unique Zone points for LCD Terminals 1 to 9.</p> <p>LED Keypad Zones are reported on unique Zone points for LED Keypads 1 to 9.</p> <p>32 Zone inputs can be reported from each of Expander Modules 1 to 9.</p> <p>8 Zone inputs can be reported from each of Reader Modules 1 to 9.</p>
MAP-1	<p>Similar to Standard, except:</p> <p>LED Keypad Zones share the LCD Terminal Zone points.</p> <p>16 Zone inputs can be reported from each of Expander Modules 1 to 18.</p>
School 30	<p>Similar to Standard, except:</p> <p>LED Keypad Zones share the LCD Terminal Zone points</p> <p>16 Zone inputs can be reported from each of Expanders 1 to 30.</p> <p>No Reader Modules are reported.</p>
School 19	<p>Similar to Standard, except:</p> <p>LED Keypad Zones share the LCD Terminal Zone points</p> <p>32 Zone inputs can be reported from each of Expanders 1 to 19.</p> <p>No Reader Modules are reported.</p>
SIMS II	<p>Takes advantage of SIMS II Automation system message mapping technique.</p> <p>All Zones/System inputs reported uniquely on any module type up to Module Number 35.</p> <p>Open/Close on up to 35 Areas with single client code, or up to 250 Areas with unique client code for each Area. Details of the mapping technique are provided in the Tables section under "SIMS II Alarm Report Mapping."</p>

- Access-1** (V3 or later) This map accommodates the extensive use of Reader Modules and may be more suitable for larger installations that place particular emphasis on Access Control.
 LCD Terminal Zone points can be reported from each of the Terminals 1 to 9
 16 Zone inputs can be reported from each of Expanders 1 to 9 (E type).
 Reader Module Zone points can be reported from each of the Reader Modules 1 to 36.
 Big Expanders, Wireless Network Modules & Mini Expanders share the Expander Zone point numbers.
 No Intelligent Reader Modules or Analogue Modules are reported.
- Pacom** (V3 or later) This map has been specifically designed for the Pacom format. Please contact the Manufacturer for further details.
- Standard-2** (V3.5 or later) This map allows all Modules available on the system to report in some form. The map introduces new conventions to allow the Control Module and all the current 8 Types of LAN Modules to report. While all Module Types can be reported, the total number of Modules on the system and the limit of 999 Contact ID point numbers will restrict the number of any individual Type of Module that can be reported.
- A number of Inputs (mostly System Inputs) on some Modules are not reported with an individual point number. These inputs are grouped together and reported as "General Input Alarms".
 e.g. Keypad Lockout for all LCD Terminals (Txx:S07) is reported as Point number 98.
 Door Held for the 1st Door on all Reader Modules (Rxx:S04) is reported as Point number 93.
 All Zone Inputs and System Inputs on the Control Module, B type Expanders and E type Expanders are individually reported. (With the exception of "Program change" on E type Expanders. [Exx:S10])
 All Zone Inputs on Mini Expanders and Wireless Network Modules are individually reported.
- The Standard-2 Map splits the 999 available point numbers into blocks of 50 points.
 - Points 0 to 99 are reserved for the Control Module and "General Input Alarms".
 - Each of the different remote Module Types are then designated a "Starting block".
- Mapping tables for Standard-2 Map in each of the Memory Size and configuration options will be available on the Website.
- School 19B** (V3.59 or later) This map is very similar to School19 except that the System Inputs for all Expander Modules start at the same point numbers. In the School19 Map, the system inputs would start immediately after the last Zone Input on that module type.

FOR MORE INFORMATION:

The tables on the following pages provide a summary of the Input Point Mapping for every Module.

For full details of Point Mapping for most options refer to the Tables section at the rear of this manual.

Additional Contact ID Mapping tables are available on the Website.

Note: LED Keypads and Geoquip are not currently available.

Contact ID Input Point Mapping Summary

	Standard	Map-1	School 30	School 19
Control Module	All Inputs individually reported	All Inputs individually reported	All Inputs individually reported	All Inputs individually reported
LCD Terminal	All Inputs to Module #9 individually reported	All Inputs to Module #9 individually reported	All Inputs to Module #10 individually reported	All Inputs to Module #10 individually reported
LED Keypad (Not yet available)	All Inputs to Module #9 individually reported	All Inputs to Module #9 individually reported on LCD Term Points.	All Inputs to Module #10 individually reported on LCD Term Points.	All Inputs to Module #10 individually reported on LCD Term Points.
Big Expander	All Inputs to Module #9 individually reported.	1st 16 Zones & all System I/Ps to Module #18 individually reported.	1st 16 Zones & all System I/Ps to Module #30 individually reported.	All Inputs to Module #19 individually reported.
1 Door/2 Door Access	All Inputs to Module #9 individually reported.	All Inputs to Module #9 individually reported.	All Inputs report on Point 99.	All Inputs report on Point 99.
Wireless Network	All Inputs to Module #9 individually reported.	All Inputs to Module #9 individually reported.	All Inputs to Module #13 individually reported on Big Exp Point numbers.	All Inputs to Module #13 individually reported on Big Exp Point numbers.
Mini Expander	All Inputs to Module #9 individually reported on Big Exp Point numbers.	All Inputs to Module #18 individually reported on Big Exp Point numbers.	All Inputs to Module #30 individually reported on Big Exp Point numbers.	All Inputs to Module #19 individually reported on Big Exp Point numbers.
16Z Expander	All Inputs to Module #9 individually reported on Big Exp Point numbers.	All Inputs to Module #18 individually reported on Big Exp Point numbers.	All Inputs to Module #30 individually reported on Big Exp Point numbers.	All Inputs to Module #19 individually reported on Big Exp Point numbers.
Intell 4 Door Access	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.
Analogue Module	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.
Geoquip	Not yet available.	Not yet available.	Not yet available.	Not yet available.
LAN Pwr Supply	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.	All Inputs report on Point 99.
Open/Close by User	User 1 to 900 individually reported. Users >900 = Point 99.			
Open Close Area	Area 1 to 98 individually reported. Areas >98 = Area 99. General Open/Close = Area 00.			

NOTES.

Pacom: Specifically designed for the Pacom format. Contact Inner Range for further details.

School 19B: Similar to School-19 except that System I/Ps for all Expander Module Types start at the same Point number.

Standard-2: Allows all Module Types to report. Mapping varies with Memory Size and Configuration selected. See Website for details.

Unmapped Inputs: Inputs not mapped to an individual Point number are reported as Point number 99. Note that the Event Code and Group Byte (Area number) can still be used to identify different types of alarms reported on Point 99.

	School 19B	SIMS II	Access-1	
Control Module	All Inputs individually reported	All Inputs individually reported	All Inputs individually reported	
LCD Terminal	All Inputs to Module #10 individually reported	All Inputs to Module #35 individually reported	All Inputs to Module #9 individually reported	
LED Keypad (Not yet available)	All Inputs to Module #10 individually reported on LCD Term Points.	All Inputs report on Point 99.	All Inputs report on Point 99.	
Big Expander	All Inputs to Module #19 individually reported.	All Inputs to Module #35 individually reported	1st 16 Zones & all System I/Ps to Module #9 individually reported.	
1 Door/2 Door Access	All Inputs report on Point 99.	All Inputs to Module #35 individually reported	All Inputs to Module #36 individually reported	
Wireless Network	All Inputs to Module #13 individually reported on Big Exp Point numbers.	All Inputs to Module #13 individually reported	All Inputs to Module #9 individually reported on Big Exp Point numbers.	
Mini Expander	All Inputs to Module #19 individually reported on Big Exp Point numbers.	All Inputs to Module #35 individually reported	All Inputs to Module #9 individually reported on Big Exp Point numbers.	
16Z Expander	All Inputs to Module #19 individually reported on Big Exp Point numbers.	All Inputs to Module #35 individually reported	All Inputs to Module #9 individually reported on Big Exp Point numbers.	
Intell 4 Door Access	All Inputs report on Point 99.	All Inputs to Module #35 individually reported	All Inputs report on Point 99.	
Analogue Module	All Inputs report on Point 99.	All Inputs to Module #35 individually reported	All Inputs report on Point 99.	
Geoquip	Not yet available.	Not yet available.	Not yet available.	
LAN Pwr Supply	All Inputs report on Point 99.	All Inputs to Module #35 individually reported	All Inputs report on Point 99.	
Open/Close by User	User 1 to 900 individually reported. Users >900 = Point 999.			
Open Close Area	Area 1 to 98 individually reported. Areas >98 = Area 99. General Open/Close = Area 00.			

DIALER ATTEMPTS AND DIAL HOLDOFF TIMES

Introduction.

The Dialer reporting formats in Model 3000/Access 4000 panels incorporate the ability to dial up to 4 different Telephone numbers. The number of Dial Attempts can be specified and a variable Dial Holdoff Timer further enhances the integrity of the Central Station communications and helps to protect against purposeful blocking of the call attempts.

Telephone Numbers.

The Installer can define a main Telephone Number (1st Number) and up to 3 additional numbers that can be used to contact a Central Station.

Dial Attempts.

Dial attempts will begin with the 1st Number which **must** be present, and will continue up to the maximum number of attempts specified. The Default setting is 8 attempts.

(Note that Telecommunications regulatory authorities usually limit the maximum number of attempts allowed. Check with your local authority.)

If different telephone numbers are needed for the subsequent attempts, these Telephone Numbers can be assigned as the 2nd, 3rd and 4th Numbers.

If a dial attempt on the 1st Number fails, the additional numbers are tried in the order 2nd, 3rd, 4th, 1st, 2nd and so on. If a number is not present, the next available number in the sequence is substituted.

Examples:

NUMBERS ASSIGNED

	ATTEMPTS									
	1	2	3	4	5	6	7	8	9	10
	NUMBER USED.									
All 4 numbers.	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
Only the 1 st 2 nd and 3 rd numbers.	1st	2nd	3rd	1st	1st	2nd	3rd	1st	1st	2nd
Only the 1 st and 2 nd numbers.	1st	2nd	1st	1st	1st	2nd	1st	1st	1st	2nd
Only the 1 st number.	1st	1st	1st	1st	1st	1st	1st	1st	1st	1st

Note that the 1st Number, being the next available number in the cycle, is substituted for attempts on any number that has not been assigned its own Telephone Number. This simply means that when fewer than 4 Numbers are assigned, the 1st Number, or Primary Number will be tried more often.

If the system is required to dial 2 different telephone numbers alternately, (i.e. TN001 and TN002), then the telephone numbers need to be assigned as follows:

1st Number: TN001
 2nd Number: TN002
 3rd Number: TN001
 4th Number: TN002

Dial Holdoff.

The Dial Holdoff time is kept to a minimum (around 5 Seconds) for the 1st 4 attempts allowing the panel to quickly try all 4 possible telephone numbers. After the 4th attempt, the Holdoff time between attempts is then varied. This Holdoff time never exceeds 120 Seconds.

In the Comms Task programming for Dialer Comms Tasks, a "60 Second Redial" option is available to cater for countries where regulations require a 60 Second Holdoff time between any re-dial attempts. E.g. Singapore. This option overrides the Dial Holdoff timers described above.

“Monitor” Comms Task Format

This Comms Task is for the manufacturer's use only and should not be selected.

"Answer Call" Comms Task Format

2.

Answer Call (with Callback & Fax Bypass option)

The Answer Call format is used if you wish the Model 3000 to be able to answer the dialer line (or call back the computer) and provide:

- A modem connection for the purposes of upload / download.
- Panel remote control from any "touch-tone" (DTMF) telephone or mobile phone.

It can also be used to automatically monitor the status of the dialer line by periodically checking for DC voltage on the line. You cannot have more than one Comms Task assigned to answer the phone. If more than one "Answer Call" Comms Task has been programmed in error, the Comms Task with the **lower** Comms Task number will answer the call (CT001 will take priority over CT002). Normal operation is as follows:

The task will periodically test the dialer line for DC voltage and will alarm / restore the Control Module System Input "Phone" (C01:S22) as required. In addition, the task will monitor the dialer line for a ringing phone and after the required amount of rings will answer the dialer line and attempt a modem connection at the highest baud rate available (300 or 1200 Baud).

If Callback is programmed, the panel will hang-up, wait 15 seconds, then dial the pre-programmed "Callback Tel. No." (If another Comms Task requires the phone line during the 15 second pause, Callback will be aborted) After dialling, the Concept 3000 waits 30 seconds for the start of the modem answer tone. (If the phone is ringing whilst attempting a call back, the Model 3000 will wait until the ringing stops before trying to dial.)

If Fax Bypass is programmed and rings are sensed but cease before the required number of rings is reached, the task will loop the line in parallel with whatever may have answered the dialer line and wait a pre-determined time for a single or series of DTMF tones. If a DTMF tone is sensed, the task will seize the line and wait a further time before initiating the modem answer connect sequence. If DTMF tone is not sensed within the required time, the task will un-loop the line. This allows fax machines and the like to be bypassed by simply sending any DTMF tone when the fax machine answers.

Answer Call Options

Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need to be programmed, however, Special options are reached by pressing HELP, "9" twice at the Active / Idle screen.

**CT001 Rings to
Answer: 000**

This screen sets the number of rings to answer the incoming call. Legal values are between 001 and 019 rings.

**CT001 Ans.F3CTSD..
Options-> nnnnnnnn**

This screen allows some answer options to be programmed:

F Fax bypass

This option enables Fax bypass by sensing if the phone stops ringing before the required amount of rings. If detected the Comms Task will then loop the line in parallel with whatever answered the phone and wait a pre-determined time for DTMF tone to be sensed.

3	300 Baud	This option forces 300 Baud to be used to connect the modem, irrespective of the modem type installed.
C	Call back	This option forces the panel to always Call back the Upload / Download package thus implementing a higher degree of security. The "Remote Access" option in the Installer's Menu Group must be set to "Yes".
T	Timed bypass	This option enables Timed Bypass. The [F]ax Bypass option above must be set to "Yes". This option allows the PC Operator to achieve Fax Bypass by dialling the panel, aborting the call immediately after the fax has answered ([F10] then "Yes") and then dialling the panel again <u>1 minute</u> later. The panel will now answer on the first ring, thereby gaining the line before the fax/answering machine can answer.
S	Single DTMF	This option must be set to "Y" if the "F" flag above is set to Yes and DTMF Control is to be used. This instructs the modem to monitor the line for a DTMF tone for a time once a fax or other device has answered the line.
D	DTMF Control	This option enables DTMF Control, once the system has answered a call and the correct DTMF tone has been detected. "Single DTMF Tone" must also be programmed in special options below. DTMF cannot be used with Timed bypass. See "DTMF Control Programming" [MENU 7,3,3].
.	Spare	This option has been left spare for future development.
.	Spare	This option has been left spare for future development.

CT001 Line Test Time: 000 min

This screen sets the time between automatic dialer line tests. Dialer line tests are performed by detecting line voltage. If the line voltage is detected then C01:S22 will be set to the alarm condition. Setting a time of 000 minutes disables line testing. The maximum time is 255 minutes (4 hours, 15 minutes).

Answer Call Special Options

Special options are reached by pressing HELP, "9" twice at the Active / Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options, when programming of special options is complete.

CT001 PpDTM.6 Dial -> nnnnnnnn

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default). <i>See the section on "Introduction to Dialer formats" at the end of this chapter for more details.</i>
F	Force 300 Baud	Not used in "Answer Call" Comms Task.

T	Test Mode	Not used in "Answer Call" Comms Task.
M	Max Count	Not used in "Answer Call" Comms Task.
.	Spare	Spare for future development.
6	60 sec Redial	Not used in "Answer Call" Comms Task.

**CT001 PABX No.->
None**

These screens allow the installer to define an optional PABX Access number and Call-back Telephone Number. When the Call-back number is defined, extra security is provided by forcing the task to ring back this number on a successful log-on sequence as an added precaution against "hacking".

**CT001 PABX No.->
TN000**

Telephone numbers are selected from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number, if desired.

**CT001 Back No.->
None**

See Telephone Number Programming.

**CT001 Back No.->
TN000**

**CT001 Cust No.->
None**

This screen allows the installer to specify the Telephone Number of the dialer line connected to the panel and is useful for reference purposes. It is not required for programming or panel functionality.

**CT001 Cust No.->
TN000**

**CT001 Seize Aux
C01:X08**

This screen allows an Auxiliary output to be specified that will turn on whenever the dialer line is seized and turn off whenever the dialer line is released.

**CT001 DTMF Tone
Wait: 000/10 sec**

This screen sets the time a task will wait to sense the DTMF tone when in fax bypass mode. The time is programmable from 1/10 second to 255/10ths of a second (25.5 secs). If this option is left at 000/10 then the default time of 5 seconds will be used.

The DTMF tone wait time is also used as the main dial tone wait time in Callback operation and is best left at its default value (000/10) if Callback is utilised.

If the phone is ringing whilst attempting a call back, the system 3000 will wait till the ringing stops before trying to dial.

**CT002 Single
DTMF Tone: 000**

This screen allows the Installer to specify the DTMF tone which will be used to initiate the modem answer sequence in fax bypass mode and also selects the tone that will be used to initiate DTMF Control Mode. The programmed tone is the one that will initiate the modem connect sequence. The programmed tone **plus one** is the tone that will initiate DTMF Control Mode..

eg. if "005" is programmed, the DTMF digit 5 will be the Fax bypass tone in PC Direct and DTMF tone 6 will initiate DTMF Control Mode.

"(D)TMF Control" option must be set to "Yes" under "Answer Options" above. See "DTMF Control Programming" [Menu 7,3,3] for more details.

CT001 Line Test Count: 000

This screen sets parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

CT001 Answer Wait: 000/10 sec

This screen allows an answer wait time between 0 and 255/10ths of a second (25.5 seconds) to be programmed. The default is 0 seconds. When a non-zero answer wait time is programmed, upon answering the call and accessing the interpreter for upload/download, all incoming characters will be ignored until the answer wait time has expired. This is useful when connecting with a mobile data network where unnecessary additional characters are output immediately after modem connection.

The Answer Wait time is also used as the PABX dial tone wait in Callback operation and is best left at its default value (000/10) if Callback is utilised.

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will "take-over" the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ◆ Smart Dial This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ◆ Dumb Dial This setting does not make "smart" decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed "Attempting Dialer Connection".

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the "Look Ahead" option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either smart dial or dumb dial can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
5. Wait for Central Station required handshake for this format. If get dial tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time-out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE:

Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

“PC Direct” Comms Task Format

This communication format allows the 3000/4000 system to connect to the PC Direct Upload / Download programme.

CT001 Idle ->
PC Direct

Programming options are found by pressing HELP, “9” at this screen.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the PC will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 0 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.
Port “O” should only be used as a temporary connection as the on-board dialer is disables whilst Port “O” is connected. Ports 1 to 4 are on the UART board and should be used for permanent or frequent connection.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended for normal use but 19200 may be used for Upload/Download.
See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1] for further details.

Return to the first screen by pressing HELP, “0” and toggle the Comms task On and Off by pressing the “9” Key.

CT001 ..R.
Status -> nnnn

Diagnostics
Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be Reset (cleared) when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the distributor’s Technical Support.

"IRfast" Comms Task Format

Dialer Operation - IRfast

The Model 3000 and Access 4000 panels can communicate in IRfast dialer format to a suitably equipped Central Station. IRfast can be used to report Area opens/closes and Zones/Input isolations, tampers, alarms and restores to a Central Station equipped with a FE100 digital receiver. No input or user mapping is required because **all** Model 3000 and Access 4000 alarm reports and events can be reported uniquely, including optional review text if desired.

IRfast format features include:

- Very fast reporting
- Compatible with all other formats
- Unique reporting of all events
- Optional Review text for alarm clarification
- Optional Contact ID Interpretation
- Optional Panel system information
- Up to 65000 users
- Up to 250 Areas
- Encrypted Communications
- Supports panel remote control

Dialer Options

Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need to be programmed.

Special options are reached by pressing HELP, "9" twice at the Active / Idle screen.

**CT001 Client
Code: 0000**

This screen sets the client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the "Multiple Area Client Code" is set, it is possible for a different client code to be used.

**CT001 PABX No.->
None**

These screens allow the installer to define an optional PABX access number. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number programming.

**CT001 PABX No.->
TN000**

**CT001 1st No.->
None**

This screen allows the Installer to define the main Telephone Number to be used to contact the Central Station. Attempts will begin with the 1st number which **must** be present, up to the maximum number of attempts specified. (Default is 8 attempts)

**CT001 2nd No.->
None**

If different telephone numbers are needed for subsequent attempts, the 2nd, 3rd and 4th telephone numbers may also be defined.

If a dial attempt on the 1st telephone number fails, the additional numbers are tried in the order 2nd, 3rd, 4th, 1st, 2nd and so on. If a number is not present, it is skipped and the next number in the above sequence is tried.

After an initial 4 attempts, the Holdoff time between attempts is then varied to enhance the chances of a successful call and help protect against blocking.
(The Holdoff time never exceeds 120 Seconds)

Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number.
See Telephone Number Programming.

**CT001 Dial PpDFTM.6
Options-> nnnnnnnn**

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default). <i>See "Introduction to Dialer Formats" at the end of this chapter.</i>
F	Forces 300 Baud	Forces all communications to 300 Baud instead of the default 1200 Baud. This need only be set if there are communication difficulties at 1200 Baud. (Relevant to IRfast format only).
T	Test Mode	This enables Test Mode which causes changes to the dial sequence to suit the Victorian Schools Tester. These changes are: -Do not dial the Telephone Number -Do not wait for initial handshake -Do not require an acknowledgement -Shorten inter-round time from 500ms to 300ms
M	Maximum Count	This enables the Maximum Count option. This option allows the maximum call time in Contact ID to be based on valid acknowledgements received, rather than time. If this option is set, the maximum call time is based upon the number of packets sent (1 to 255) programmed in the "Online Time" screen, under Special Options.
.	Spare (S in V1 & 2)	Formerly Single Hit in V1 & V2. This option now in Process Groups. Currently, this option has been left spare for future development.
6	60 sec Redial	This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations.

CT001 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

- | | | |
|----------|----------------------------|--|
| M | Multiple Area Codes | If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application) |
| L | Look Ahead | Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if the dialer takes a long time to get through to the Central Station or if reports are being generated faster than they can be sent. If this option is set to "Y", Look Ahead operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single Zone/Input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet. Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multibreaking detectors. |
| G | General O/C | <p>This option selects general open and close reporting. Whenever all Areas are turned ON a general Area close is reported. As soon as the first Area is turned OFF, a general Area open is reported.</p> <p>In Area programming, some Areas can be nominated as "Not General Area" and are ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming "Not General Area" option for details.</p> |
| P | Prevents Restores | This option prevents restores from being reported via this Comms Task. |
| N | No Area Still Open | In Area programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format. |

CT001 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

CT001 EOA.....
Efilt-> nnnnnnnn

The "Extra Filter" screen option allows a Comms Task to only respond to certain types of events.

- | | | |
|----------|---------------------|--|
| E | Extra Filter | This option enables Extra Filter options. If left at "n", no extra filtering is used. ie. normal operation. |
| O | Opens/Closes | This option enables Opens/Closes reports to be sent via this Comms Task. This option only applies if the "E" option above is set to "Yes". |

A **Alarms** This option allows Alarms/Tampers/Isolations to be sent via this Comms Task. This option only applies if the "E" option above is set to "Yes".

. **Spare** Spare options for future filters. Leave set to "n".

For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via Contact ID, set the Securitel Comms Task with the "E" and "O" Extra Filter options and the Contact ID Comms Task with the "E" and "A" Extra Filter options.

CT001 Mapping -> Standard

This screen determines the input mapping for this Comms Task.

This is only relevant if sending Contact ID messages via the IRfast format. The (C)ontact ID option must be set to "Yes" under Special Options for this feature to operate correctly.

In order to cater for different types of system configurations within the limitation of the number of points available in the Contact ID format, several input mapping options have been provided as follows:

- Standard
- MAP-1
- School 30
- School 19
- SIMS II
- Access-1 (V3 or later)
- Pacom (V3 or later)
- Standard-2 (V3.5 or later)
- School 19B (V3.5 or later)

For more details of Mapping options refer to "Comms Task Formats" at the beginning of this section and to the tables at the rear of this manual.

Because IRfast format doesn't require mapping, this mapping selection is used to determine the Contact ID mapping to be used when Contact ID information is to be sent in addition to native IRfast information.

Dialer formats - Special Options

Special options are reached by pressing HELP, "9" twice at the Active/Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options when programming of special options is complete.

CT001 Maximum Attempts: 008

This screen sets the maximum dial attempts this task will use to attempt to contact the Central Station. If left at zero then the default of 8 attempts will be used. Telecommunication regulatory authorities may limit this number. (In Australia, Austel specify a maximum of 10 attempts).

In "UK" firmware, the value cannot be set to greater than 14.

**CT001 Backup
Attempts: 003**

This screen sets the number of dial attempts before the backup input will be triggered (C01:S20). If left at 000 the default value of 4 will be used.

**CT001 Backup
Task: CT000**

This screen allows an optional backup task to be specified that will be triggered if this Comms Task fails to communicate within its maximum attempts. Leaving the task at CT000 specifies no backup task will be triggered.

**CT001 Seize Aux
C01:X08**

This screen allows an Auxiliary output to be specified. This Auxiliary will turn on whenever the dialer line is seized and will turn off whenever the dialer line is released.

**CT001 Pass Aux
C01:X08**

This screen allows the installer to specify an Auxiliary output to turn on whenever the dialer successfully sends a report to the Central Station. It must be turned off by some other mechanism such as a timer.

**CT001 PABX Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the PABX number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Main Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the Main number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Handshake
Wait: 030**

This screen sets the time the task will wait for an initial handshake after dialling the Central Station. The time is programmable from 1 second to 255 seconds. If this option is left at 000 then the default time of 30 seconds will be used.

**CT001 Max.Online
Time: 010 min**

This screen sets the maximum time the task will stay on-line before hanging up and re-dialling. The time is programmable from 1 minute to 255 minutes. If this option is left at 000 then the default time of 10 minutes will be used.

If the timer expires, the Comms Task will hang up and "Call too long" will be logged to Review.

If the "Maximum Count" option in the Dial Options is set to Yes, this screen is used to program the maximum number of packets sent (1 to 255).

**CT001 Line Test
Count: 000**

This screen sets the parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

IRfast Special Options

If IRfast format has been chosen, the previous special options will be followed by two more special option screens only relevant to the IRfast format. These screens will not appear if other dialer formats are selected.

CT001 RCT..LIU
Sopts-> nnnnnnnn

This screen specifies a number of send options:

R	Review Text	Setting this option to "Y" will cause the Model 3000 panel to send review text for each event reported.
C	Contact ID	Setting this option to "Y" will cause the Model 3000 panel to send an equivalent Contact ID string for each event reported, using the mapping option selected above. This is useful when the FE100 is being used to receive IRfast format but the automation system cannot understand native IRfast information.
T	Time/Date	Setting this option to "Y" will cause the Model 3000 to send a text string of the Time/Date the event was recorded into review on the Model 3000 panel.
L	Link to PC	Setting this option to "Y" will cause the FE100 to hand on to the line for a short period to allow the Automation to send commands back to the panel. Only set this option after consultation with the Central Station.
I	Information	Setting this option to "Y" will cause the Model 3000 panel to send miscellaneous panel information before hanging up, including panel serial number, software version and security option settings.
U	Update	Setting this option to "Y" will cause the FE100 to Update the Model 3000 panel time and date from the FE100 system clock prior to hanging up.
.	Spare	This option has been reserved for future developments and must be set to "n".

NOTE: An FE100 can set any of the above options to Yes on a per receiver basis. The above options should only be enabled upon instruction from the Central Station.

CT001 IU...DXA
Eopts-> nnnnnnnn

This screen configures various panel remote control options.

Remote Control options are only relevant where the appropriate facilities exist at the Central Monitoring Station.

I	Installer	This option causes the system to consider the Central Station as the Installer as far as panel control is concerned.
U	User	This option causes the system to consider the Central Station as a normal User as far as panel control is concerned.
D	Doors	Setting this option to "Y" will allow Doors to be unlocked and locked by the Central Station. (Not yet implemented)
X	Auxiliaries	Setting this option to "Y" will allow Auxiliaries to be turned on and off by the Central Station. (Not yet implemented)

- | | | |
|---|-------|--|
| A | Areas | Setting this option to “Y” will allow Areas and Area Lists to be turned on and off by the Central Station. |
| . | Spare | This option has been reserved for future developments and must be set to “n”. |

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will “take-over” the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ◆ **Smart Dial** This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ◆ **Dumb Dial** This setting does not make “smart” decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed “Attempting Dialer Connection”.

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the “Look Ahead” option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either smart dial or dumb dial can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.

5. Wait for Central Station required handshake for this format. If get dial-tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time-out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE:

Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

“Contact ID” Comms Task Format

Dialer Operation - Contact ID

Contact ID is used to report Area opens/closes and Zone /Input isolates, tampers, alarms and restores using the Ademco Contact ID format to a Central Station Digital Alarm Receiver. All the Model 3000 Zones / Inputs are mapped to particular Contact ID points. Because Contact ID cannot support a fully featured Model 3000 system certain reporting restrictions apply when using Contact ID. Some of these restrictions will vary depending on the Contact ID “Mapping” option chosen.

The restrictions applicable to “Standard Mapping” are:

- Up to 99 Areas
- Up to 900 Users
- Up to 9 LCD Terminals and up to 9 LED Terminals
- Up to 9 Zone Expanders
- Up to 9 Reader Modules

For restrictions applying to other Mapping options refer to the tables at the rear of this manual.

If you attempt to report information outside this range, a specific Contact ID report will be sent to indicate incorrect programming.

Although most receivers will receive the raw information correctly, many automation systems cannot handle large Contact ID systems or partition information. Check with your Central Station service provider.

Each event in Contact ID is sent as a string of 16 DTMF digits. For example, an alarm followed by a restore and then an opening would be 3 events. This makes this format slower than some others such as Ademco fast format, particularly for multiple alarms. All Contact ID strings follow the format below:

CCCC 18 SXYZ GG PPP Kwhere

CCCC	is the 4 digit client code that identifies the panel.
18	is always the digits “18”
SXYZ	is the event code for the type of event
GG	is the Group Byte which signifies the Area being opened/closed or the Area in which the alarm occurred. (Often = 00)
PPP	is the Point ID. This refers to either the point number or the user ID depending on the type of event.
K	is the checksum.

Some receivers will display a “U” or a “C” in front of the PPP, depending on whether the PPP represents a User ID or an alarm point.

U=User C=Alarm point

Dialer Options

Options are reached by pressing HELP, “9” at the Active / Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need to be programmed.

Special options are reached by pressing HELP, “9” twice at the Active / Idle screen.

**CT001 Client
Code: 0000**

This screen sets the client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the "Multiple Area Client Code" is set, it is possible for a different client code to be used.

**CT001 PABX No.->
None**

These screens allow the installer to define an optional PABX access number. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number programming.

**CT001 PABX No.->
TN000**
**CT001 1st No.->
None**

This screen allows the Installer to define the main Telephone Number to be used to contact the Central Station. Attempts will begin with the 1st number which **must** be present, up to the maximum number of attempts specified. (Default is 8 attempts)

**CT001 2nd No.->
None**

If different telephone numbers are needed for subsequent attempts, the 2nd, 3rd and 4th telephone numbers may also be defined.

If a dial attempt on the 1st telephone number fails, the additional numbers are tried in the order 2nd, 3rd, 4th, 1st, 2nd and so on. If a number is not present, it is skipped and the next number in the above sequence is tried.

After an initial 4 attempts, the Holdoff time between attempts is then varied to enhance the chances of a successful call and help protect against blocking. (The Holdoff time never exceeds 120 Seconds)

Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number.

See Telephone Number Programming.

**CT001 PpDFTM.6
Dial -> nnnnnnnn**

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default). <i>See "Introduction to Dialer Formats" at the end of this chapter.</i>
F	Forces 300 Baud	Forces all communications to 300 Baud instead of the default 1200 Baud. This need only be set if there are communication difficulties at 1200 Baud. (Relevant to IRfast format only).
T	Test Mode	This enables Test Mode which causes changes to the dial sequence to suit the Victorian Schools Tester. These changes are: <ul style="list-style-type: none"> -Do not dial the Telephone Number -Do not wait for initial handshake -Do not require an acknowledgement -Shorten inter-round time from 500ms to 300ms

- | | | |
|----------|--|--|
| M | Maximum Count | This enables the Maximum Count option. This allows the maximum call time in Contact ID to be based on valid acknowledgements received, rather than time. If this option is set, the maximum call time is based upon the number of packets sent (1 to 255) programmed in the "Online Time" screen, under Special Options. |
| A | Abort Pre-dial
(S in V1 & V2) | (Formerly Single Hit in V1 & V2. This option now in Process Groups.) |
| 6 | 60 sec Redial | This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations. |

**CT001 MLGPN...
Ropts -> nnnnnnnn**

This screen sets various reporting options:

- | | | |
|----------|----------------------------|--|
| M | Multiple Area Codes | If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application) |
| L | Look Ahead | Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if the dialer takes a long time to get through to the Central Station or if reports are being generated faster than they can be sent. If this option is set to "Y", Look Ahead operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single Zone/Input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet. Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multibreaking detectors. |
| G | General O/C | <p>This option selects general open and close reporting. Whenever all Areas are turned ON a general Area close is reported. As soon as the first Area is turned OFF, a general Area open is reported.</p> <p>In Area programming, some Areas can be nominated as "Not General Area" and are ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming "Not General Area" option for details.</p> |
| P | Prevents Restores | This option prevents restores being reported via this Comms Task. |
| N | No Area Still Open | In Area programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format. |

**CT001 Area List
Filter: AL002**

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

**CT001 EOA.....
Efilt-> nnnnnnnn**

The "Extra Filter" screen option allows a Comms Task to only respond to certain types of events.

E Extra Filter

This option enables Extra Filter options. If left at "n", no extra filtering is used. ie. normal operation.

O Opens/Closes

This option enables Opens/Closes reports to be sent via this Comms Task.

A Alarms

This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.

. Spare

Spare options for future filters. Leave set to "n".

For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via Contact ID, set the Securitel Comms Task with the "E" and "O" Extra Filter options and the Contact ID Comms Task with the "E" and "A" Extra Filter options.

**CT001 Mapping ->
Standard**

This screen determines the input mapping for this Comms Task.

In order to cater for different types of system configurations within the limitation of the number of points available in the Contact ID format, several input mapping options have been provided as follows:

- Standard
- MAP-1
- School 30
- School 19
- SIMS II
- Access-1 (V3 or later)
- Pacom (V3 or later)
- Standard-2 (V3.5 or later)
- School 19B (V3.59 or later)

For more details of Mapping options refer to "Comms Task Formats" at the beginning of this section and to the tables at the rear of this manual.

Dialer formats - Special Options

Special options are reached by pressing HELP, "9" twice at the Active/Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options when programming of special options is complete.

NOTE: The values shown in the following 10 screen examples are the default values

**CT001 Maximum
Attempts: 008**

This screen sets the maximum dial attempts this task will use to attempt to contact the Central Station. If left at zero then the default of 8 attempts will be used. Telecommunication regulatory authorities may limit this number. (In Australia, the ACA specifies a maximum of 10 attempts).

In "UK" firmware, the value cannot be set to greater than 14.

**CT001 Backup
Attempts: 004**

This screen sets the number of dial attempts before the backup input will be triggered (C01:S20). If left at 000 the default value of 4 will be used.

**CT001 Backup
Task: CT000**

This screen allows an optional backup Comms Task to be specified that will be triggered if this Comms Task fails to communicate within its maximum attempts. Leaving the task at CT000 specifies no backup task will be triggered. Backup Comms Tasks are available in IRFast, Contact ID and GSM modem formats. (GSM requires V3.5 or later)

**CT001 Seize Aux
:X**

This screen allows an Auxiliary output to be specified. This Auxiliary will turn on whenever the dialer line is seized and will turn off whenever the dialer line is released.

**CT001 Pass Aux
:X**

This screen allows the installer to specify an Auxiliary output to turn on whenever the dialer successfully sends a report to the Central Station. It must be turned off by some other mechanism such as a timer.

**CT001 PABX Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the PABX number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Main Dial
Wait: 030/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the Main number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Handshake
Wait: 030**

This screen sets the time the task will wait for an initial handshake after dialling the Central Station. The time is programmable from 1 second to 255 seconds. If this option is left at 000 then the default time of 30 seconds will be used.

**CT001 Max.Online
Time: 010 min**

This screen sets the maximum time the task will stay on-line before hanging up and re-dialling. The time is programmable from 1 minute to 255 minutes. If this option is left at 000 then the default time of 10 minutes will be used.

If the timer expires, the Comms Task will hang up and "Call too long" will be logged to Review.

If the "Maximum Count" option in the Dial Options is set to Yes, this screen is used to program the maximum number of packets sent (1 to 255).

**CT001 Line Test
Count: 000**

This screen sets the parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will “take-over” the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ◆ **Smart Dial** This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ◆ **Dumb Dial** This setting does not make “smart” decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed “Attempting Dialer Connection”.

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the “Look Ahead” option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either smart dial or dumb dial can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
5. Wait for Central Station required handshake for this format. If get dial tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.

6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time - out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE:

Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

“EMS” Comms Task Format

This communication format allows the 3000/4000 system to connect to a Lift Controller via a High Level Lift Interface and requires a special version of Control Module. Contact your distributor or the manufacturer for further details.

CT001 Idle ->
EMS

Programming options are found by pressing HELP, “9” at this screen.

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port which is to be connected to the Lift controller. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended. See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1]

Return to the first screen by pressing HELP, “0” either one or twice and toggle the Comms task On and Off by pressing the “9” Key.

Special options are found by pressing HELP, “9” *twice* at the first EMS screen.

CT001 Number of
EMS Floors 000

This screen determines the maximum number of floors to which any one lift may go. It directly determines the packet size sent by the EMS Comms Task to the EMS Lift Controller.

CT001 Grp 1
Floors: FL000

This screen allows up to 8 EMS Groups to be configured. The EMS Group ID is assigned to a Lift Car to determine the manner in which the Lift Car is to be controlled via the EMS High Lift Interface. An optional Floor List may be assigned to each EMS lift group. This restricts the scope of service for certain Lift Cars. This may be necessary, depending on the EMS programming.

In some high rise buildings, certain Lift Cars service specific ranges of Floors. eg. Lifts 1-5 service floors 1-20 and Lifts 6-10 service Floors 21-30.

EMS Group configuration allows the Installer to specify an optional Floor List. If a Floor is not included in this Floor List, the Lift Car will not stop at that Floor, regardless of the User’s permissions. The User should take the appropriate Lift Car for the desired Floor and Floor access is only then granted if all other User permissions are in order.

Refer to “Lift Programming” in the Application Programming section of this manual.

CT001
Opts -> nnnnnnnn

This screen is not currently used but has been set aside for future expansion.

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

Technical Specifications

Null Poll Time (one group at a time)	1 second
Security mask refresh rate with no activity (one lift car at a time)	30 seconds
Minimum time from end of response to next null or set mask command	50ms
Maximum wait for reply	300ms
Maximum retries before error registered	5
Low level error logging	Yes
Button feedback saved	Yes
Send all Masks on CT start	Yes
Send all masks on reception of watchdog flag	Yes
Preferred Baud Rate	2400 Baud
Data Format	8,0,1

“EarthNet” Comms Task Format

EarthNet

The “EarthNet” Direct Line communications format allows Model 3000 and Access 4000 panels to be monitored via an EarthNet direct line system to a Central Station. All alarm information can be reported including Area opens/closes and Zones/Inputs isolations, tampers alarms and restores, plus optional review text if desired. No input or User mapping is required if the 3000/Access 4000 system is to only interface with an FE100 Receiver as this combination enables all events to be reported uniquely. If, however, the FE100 is to relay events to an automation package via Contact ID protocol, a suitable Contact ID map may be used.

Refer to the Standard and Access-1 “Contact ID Maps” in the Tables section of this manual.

3000/4000 EarthNet features include:

- Unique Reporting of all events
- Optional Review text for alarm clarification
- Optional Contact ID Interpretation
- Optional Panel time/date stamp
- Optional Panel system information
- Up to 65000 Users
- Up to 250 Areas
- Encrypted Communications
- Easier panel commissioning
- Supports panel remote control

Direct Line Programming

**CT001 Idle ->
EarthNet**

Programming options are reached by pressing HELP, “9” at the Active/Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need be programmed.

Special options are reached by pressing HELP, “9” twice at the Active/Idle screen.

**CT001 Client
Code: 0000**

This screen sets the client code to be used for **EarthNet**. The client code is programmable in decimal from 0001 to 9998. (Client codes of 0000 and 9999 should be avoided) In the EarthNet system, a panel is identified by a client code stored in the Node to which the panel is connected. The client code programmed at the Node should be programmed the same as the client code programmed in the panel. If the “Multiple Area client code” option is set then it is possible for a different panel client code to be reported, based upon Area. If this occurs both the Node client code and the panel client code will be reported.

CT001 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

- | | | |
|----------|----------------------------|--|
| M | Multiple Area Codes | This option selects Multiple Area Client Codes. In this mode, whenever a report from an Area is performed (open/close/alarms/tampers/isolates/restores), the client code defined in Area programming will be used if it is not "0000". If the Area client code is "0000", the Comms Task client code will be used. If the option is set to "n", the Comms Task client code will always be used. (See Area Programming for more details) |
| L | Look Ahead | Normally, all reportable events will be sent in the order in which they occurred; one at a time until no more reports are required. The Comms Task will guarantee the order will not alter, even if the dialer takes a long time to get through to the Central Station or if alarm reports are being generated faster than they can be sent. If this option is set to "Y", Look Ahead operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single zone/input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet . Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors. |
| G | General Open/Close | This option selects General Open/Close reporting. Whenever all Areas are turned On, a general Area close is reported. As soon as the first Area is turned Off, a general Area open is reported. In Area Programming, some Areas can be nominated to be ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES. |
| P | Prevents Restores | This option prevents restores being reported via this Comms Task. |
| N | No Area Still Open | This option selects No Area Still Open or Area 24Hr Off reports. In Area Programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format. |
| . | Spare | Spare for future developments. This option must be set to "n". |

CT001 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in this specified Area List will be sent using this Comms Task.

CT001 EOA.....
Efilt-> nnnnnnnn

The "Extra Filter" screen options allow a Comms Task to only respond to certain types of events. For example, to configure a Model 3000 so that only the alarms / tampers/isolates go via Direct Line, set the Direct Line Comms Task with the "E" and "A" options set to "Y". Opens/Closes will not be sent.

- | | | |
|----------|---------------------|---|
| E | Extra Filter | This option enables the Extra filter options. If set to "n", no extra filtering is used. |
| O | Opens/Closes | This option enables Opens/Closes to be sent via this Comms Task. "E" flag must also be set to "Y". |
| A | Alarms/T/I | This option enables Alarms/Tampers and Isolations to be sent via this Comms Task. "E" flag must also be set to "Y". |
| . | Spare | Spare for future developments. Set to "n". |

CT001

Mapping
Standard

This screen determines the input mapping for this Comms Task. To cater for different types of system configurations within the limitation of the number of points available within the Contact ID format, several input mapping options have been provided.

Because EarthNet format does not require mapping, this mapping selection is used to determine the Contact ID mapping to be used if Contact ID information is to be sent in addition to EarthNet information. See EarthNet Special options for more details.

For more details on Mapping Options, refer to the Tables at the rear of this manual.

EarthNet Special Options

Special options are reached by pressing HELP, “9” twice at the Active/Idle screen or by pressing HELP, “9” from any common options screen. HELP “0” will take you back to the common options when special options is complete.

CT001

RCT..LIU
Sopts-> nnnnnnnn

This screen sets up various send options:

R	Review Text	Setting this option to “Y” will cause the Model 3000 panel to send review text for each event reported.
C	Contact ID	If set to “Y”, the panel will send an equivalent Contact ID string for the message or event being sent
T	Time/Date	This option causes the Model 3000 to send a text string of the Time/Date the event was recorded into review on the Model 3000 panel.
L	Not Applicable	This option only applies to IRfast. Set to “n” for EarthNet.
I	Initialise Encryption	Setting this option to “Y” whilst the Comms Task is idle, then starting the Comms Task, will cause the encryption key to be reset to the manufacturer’s default. The panel can now be connected to the EarthNet system and an “Initialise panel” option can be performed at a node to allow communications to proceed.
U	Update Time	This option allows the panel time to be updated by the remote Receiver.
.	Spare	Spare. Set to “n”.

NOTE: An FE100 receiver can set any of the above options to Yes on a per receiver basis. The above options should only be set to Yes on instruction from the Central Station.

CT001 IU...DXA
Eopts-> nnnnnnnn

This screen sets up various panel control options. Remote control options are only relevant where the appropriate facilities exist at the Central Monitoring Station.

I	Installer	This option causes the system to consider the Central Station as the Installer as far as panel control is concerned.
U	User	This option causes the system to consider the Central Station as a normal User as far as panel control is concerned. (User03)
D	Doors	This option will allow Doors to be unlocked and locked by the Central Station. (Not currently operational, for future use)
X	Auxiliaries	This option will allow Auxiliaries to be turned on and off by the Central Station. (Not currently operational, for future use)
A	Areas	This option allows Areas and Area Lists to be turned on and off by the Central Station.
.	Spare	Spare. Set aside for future development.

CT001 Polls
Before Test: 000

This screen sets the number of polls the system will receive before initiating a test message. A test message is sent regularly to the node to check that encryption is operational and that the panel has not been substituted. If left at 000, the default is 20 polls. If the node does not receive a test message after about 3 minutes, a line tamper is generated by the node. This means that the number of polls before test needs to be set in conjunction with how often the panel is polled, allowing for longer poll times when data is present. This field should not be altered unless advised by your Central Monitoring Station.

CT001 Max alarms
per poll: 000

This screen sets the maximum number of alarms that can be sent by the panel following each poll received from the Central Station. This field should not be altered unless advised by your Central Monitoring Station.

Remote EarthNet Nodes

Remote EarthNet Nodes using the Port 3 Back up line **must not** be on a telephone line which has a Message Bank or similar service connected. The differential dial tones used as indicators for such services will impede the operation of back up communication.

“Securitel” Comms Task Format

Overview

Selecting the Comms Format “Securitel” allows communication events to be reported via the Securitel network. An IRPX UART board and an MCM STU are required for Securitel operation.

Only the Securitel Serial data channel is used to report information, the pin data returned will always be “all normal”. The Model 3000 uses the serial channel according to the ASIAL ratified “Serial Protocol Agreement-1990”. **Refer to the Tables section of this manual for full details of the Zones and system inputs which may be reported via Securitel.** There is no programming of mapping required as a fixed map has been chosen at this time. The following are examples of the type of information that can be reported:

- All Control Module Zones
- The first 16 Zones on the first 6 “B” Type Zone Expanders
- The first Zone on the first 8 LCD Terminals
- The first Zone on the first 8 Readers

Any Zone reported outside the above will be reported according to the Area to which it belongs as a General Area Zone Alarm. After Area 30 the Zone will be reported as a General Zone Alarm for Areas Above 30. A restore on a general Area Zone alarm does not indicate that all Zones are sealed in that Area.

All External module System Inputs are reported as general Inputs. For example, a General Zone Expander Cabinet Tamper will be reported if any cabinet tamper is alarmed on any expander, but will not send a restore until all Zone Expander cabinet tampers are sealed.

Openings and Closings can be reported up to Area 30 uniquely, alternatively a general open/close can be used where you can nominate what Areas are to belong to the general open/close calculation. User ID can be reported uniquely up to User 238.

For further details on Zone and event mapping, refer to the “Tables” section in this manual.

Securitel Programming Summary

The following Comms Task items must be programmed for Model 3000 to operate on Securitel:

1. Programme the Comms Task to “Securitel”
2. Programme the Hard ID in hex
3. Choose a UART which is going to connect to the MCM STU (Port 1 to 4)
4. Select the Baud Rate (must be 9600 Baud)
5. Select what report options are desired:
 - Look Ahead Option
 - Single Hit Reporting
 - General Open/Close Option

The Multiple Area Client Code option has no effect when selected for Securitel

6. Now set the Comms Task to Active

Under Special Programming options you can select an Auxiliary that can be controlled via the Securitel interface from the Central Station. This Auxiliary can be used to operate external devices or turn on Areas, if desired.

Other Programming

- Programme what Areas and Zones/Inputs are going to report
- Programme which Areas are to report openings/closings and whether the Area is to be ignored in a general open/close calculation.
- Programme the Area alarm action for a UART Fail (C01:S13 to C01:S16) which will occur if the Model 3000 does not get a poll from the STU within 10 seconds.
- Programme an Area and Alarm action for a Comms Fail (C01:S21) which will occur if the STU informs the Model 3000 of a Scanner (Exchange) - STU communication problem. (If the STU provides this information)

The UART DTR line will go high whilst the Securitel Comms Task is running. The UART RTS line will remain high whilst the Model 3000 is being polled by the STU and will go low after the polling is absent for more than 10 seconds.

Review Messages

All Securitel oriented review messages are explained below. “nn” represents the Comms Task number. All but the “On-Line” and the “Off-Line” messages are only saved when the detail mode is selected for review.

CTnn - On Line	This message means that the Model 3000 can “hear” polls from the STU. The UART Fail Input will be restored.
CTnn - Off Line	This message means that the Model 3000 has not received polls from the STU for 10 seconds. The UART Fail Input will be set to the alarm condition.
CTnn - STU Data-I	This message means that the Model 3000 is sending the hard ID to the STU.
CTnn - STU Data-DN	This message means the Model 3000 is about to send report information via the serial channel. The N signifies how many reports are being transferred at this time and can be a value between 1 and 4 inclusive.
CTnn - STU Data-DN (old)	This message means the Model 3000 is about to re-send N reports via the serial channel where N can a value between 1 and 4 inclusive. This can occur if an error occurs between the Model 3000 and the STU or if the serial data channel is full at the time of transmission. Only one review entry is saved if multiple (old) reports are sent.
CTnn - STU Info <text>	

Examples of Review Text are detailed in the following Table.

Review Entry Table

Review Entries are saved when a change is detected in the STU status as sent by the STU to the Model 3000.

Review Text	Normal State	Meaning
FAULT on(off)	off	If on, the STU has informed the panel that a Hard ID has not been downloaded or the STU has a hardware fault. The UART Fail Input will be alarmed.
NO COMMS on(off)	off	If on, the STU has informed the panel that communication has failed between the Scanner and the STU. The Comms Fail System Input will be alarmed.
FULL on(off)	off	If on, the STU has informed the panel that the serial channel is currently full and can accept no more alarm reports.
NO ACK on(off)	off	If on, the STU has informed the panel that a Hard ID has not been downloaded or the STU has a hardware fault.
POLL on(off)	on	If on, the STU has informed the panel that it has alarms that have not been acknowledged by the Scanner.
NO ID on(off)	off	If on, the STU has informed the panel that a Soft ID has not been downloaded.
ACK on(off)	off	If on, the STU has received an "Auxiliary On" command from the Scanner. If off, the STU has received an "Auxiliary Off" command from the Scanner.

Securitel Options**CT001 Idle ->
Securitel**

Options are reached by pressing HELP, "9" at the Active/Idle screen. Options are divided into common options and less common or special options.

Usually only the common options need be programmed.

Special options are reached by pressing HELP, "9" *twice* at the Active/Idle screen.

**CT001 Hard
ID: 0000**

This screen sets the Securitel Hard ID to be used for this Comms Task. The Hard ID is the Securitel equivalent to the client code used in other formats and is programmable in decimal from 0001 to 9999. (Hard IDs of 0000 and 9999 should be avoided.) The "Multiple Area Client Code" option has no effect when selected for securitel. The Hard ID programmed here is always used.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the STU will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the STU. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is mandatory for the MCM STU.

See Comms Task Baud Rates in Comms Task Programming [MENU 7,3,1].

CT001 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

M Multiple Area

Multiple Area client codes are not used in the Securitel format. This option should be set to "n".

L Look Ahead

Normally, all reportable events will be sent in the order in which they occurred; one at a time until no more reports are required. The Comms Task will guarantee the order will not alter, even if the dialer takes a long time to get through to the Central Station or if alarm reports are being generated faster than they can be sent. If this option is set to "Y", **Look Ahead** operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single zone/input will be ignored **if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet**. Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors.

G General Open/Close

This option selects General Open/Close reporting. Whenever all Areas are turned On, a general Area close is reported. As soon as the first Area is turned Off, a general Area open is reported. In Area Programming, some Areas can be nominated to be ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES.

P Prevents Restores

This option prevents restores being reported via this Comms Task.

N No Area Still Open

This option selects No Area Still Open or Area 24Hr Off reports. In Area Programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format.

. Spare

Spare for future developments. This option must be set to "n".

CT001 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is selected, only the information from Areas in the specified Area List above will be sent using this Comms Task.

CT001 EOA.....
Efilt ->nnnnnnnn

The “Extra Filter” screen options allow a Comms Task to only respond to certain types of events. For example, to set up a Model 3000 so that only alarms/tampers/ isolations go via Direct Line, set the Direct Line Comms Task with the “E” and “A” options set to “Y”. Opens/Closes will not be sent.

- | | | |
|---|---------------|---|
| E | Extra Filters | This option enables the Extra filter options. If left at “n”, no filtering is used. ie. normal operation. |
| O | Open/Closes | This option enables Open/Closes to be sent via this Comms Task. |
| A | Alarms/T/I | This option enables Alarms/Tampers/ Isolations to be sent via this Comms Task. |
| . | Spare | Spare for future developments. This option must be set to “n”. |

Securitel - Special Options

Special options are reached by pressing HELP, “9” *twice* at the Active/Idle screen or by pressing HELP, “9” from any common options screen. HELP “0” will take you back to the common options when special options is complete.

CT001 Poll Wait
Time: 000 sec

This screen sets the time the task will wait to receive a poll from the STU before activating a System Input to indicate a UART fail condition. The time is programmable from 1 to 255 seconds. If this option is left at 000, the default time of 10 seconds will be used.

CT001 CmdBk Aux
C01:X09

This screen allows the Command-Back Auxiliary output to be specified. The Command-Back Auxiliary can be controlled via the Securitel interface from the Central Station and can be used to provide remote control of external devices and turn Areas On and Off, if required.

CT001 Backup
Task: CT000

This screen allows another Comms Task number to be specified as the “Backup Comms Task” that will be activated if this Comms Task fails to communicate with the Central Station.

Diagnostics

CT001 ..R.
Status -> nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

- | | | |
|---|-------|---|
| . | Spare | Spare for future development. |
| R | Retry | A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind. |
| . | Spare | Spare for future development. |
| . | Spare | Spare for future development. |

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Printer” Comms Task Format

A Serial Printer may be connected that will continuously print review information.

Serial Options

CT001 Idle ->
Printer

Options are reached by pressing HELP, “9” at the Active/Idle screen. Options are divided into common options and less common options or *Special Options*. Usually only the common options need be programmed.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the device will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is chosen by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 300

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the device. The Baud Rate is selected by scrolling through the available options using the right arrow key. Settings will vary depending on the device being used.

See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1]

The following screens will appear when the Printer Comms Task is selected and allow the Installer to define which types of review message will be sent to the Printer.

CT001 ATXSLOIM
Filter-> nnnnnnnn

First Filter Screen

- | | | |
|---|--------------|---|
| A | Alarm/Tamper | If enabled, Alarm/Tamper messages will be sent to the Printer. |
| T | Triggers | If enabled, Comms Triggers will be sent to the Printer. |
| X | Auxiliaries | If enabled, Auxiliary events will be sent to the Printer |
| S | Siren | If enabled, Siren messages will be sent to the Printer. |
| L | Log On/Off | If enabled, Log On, Log Off and User access messages will be sent to the Printer. |
| O | Open/Closes | If enabled, Area Open/Closes will be sent to the Printer. |
| I | Isolations | If enabled, Isolations will be sent to the Printer. |
| M | Modules | If enabled, Module messages will be sent to the Printer |

CT001 GTDCL..E
Filter-> nnnnnnnn

Second Filter Screen

- | | | |
|---|---------|--|
| G | General | If enabled, General system messages will be sent to the Printer. |
| T | Times | If enabled, Time messages will be sent to the Printer. |
| D | Details | If enabled, Details messages will be sent to the Printer |

C	Communications	If enabled, Communication messages will be sent to the Printer.
L	Lift Control	If enabled, Lift control messages will be sent to the Printer.
.	Spare	Spare for future developments. This option must be set to "n".
.	Spare	Spare for future developments. This option must be set to "n".
E	Errors	If enabled, Error messages will be sent to the Printer.

CT001 Area List Filter: AL000

This screen allows an optional Area List filter to be defined for this Comms Task. (V4.5 or later)

If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

CT001 ..R. Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Ext. Modem” Comms Task Format

External Modem Comms Task

A Comms Task option is available which allows a high speed external modem to be connected to an external UART port for the purposes of upload/download via a telephone line.

External Modem Operations

When the Comms Task is started the RTS and DTR lines are placed in the high state and the modem is initialised to answer a ringing telephone line according to the programmed “Rings to answer” setting.

When a valid connection is made, a path through to the interpreter is established. At the end of the call the modem is instructed to hang up and await another call.

Modem Re-initialisation

If the modem is powered down, accidentally disconnected, or placed in the wrong state, you will probably need to re-initialise the modem.

All Versions: Abort and Re-start the Comms Task to re-initialise the modem.

V4 or later: Modem Initialisation string is automatically re-sent 5 seconds after the Control Module detects that the CTS line has gone High again. (The CTS line from the modem is normally High when the connection is OK.)

Note: The Ext Modem cable-993027 must be used and CTS must be High. If a modem or cable is used that does not support hardware flow control, then the Modem’s CTS line must be tied High in the interface cable.

Typical Review Messages:

CT001 Modem Connect	Modem has just connected at its preferred baud rate. The baud rate is a function of the UART Port Baud rate setting and the type of modem is not displayed.																								
CT001 Hang-up	The modem has hung up because of an error or because the remote PC has instructed that the connection be terminated.																								
CT001 Lost Carrier	The CD line on the modem has gone low, indicating the connection has been broken.																								
CT001 Modem Status nn	<p>In detail mode only, the modem has returned a result code to the 3000. These codes are modem dependent but common ones are:</p> <table><tr><td>00</td><td>Modem is idle</td><td>01</td><td>Modem OK</td></tr><tr><td>02</td><td>Ring Signal detected</td><td>03</td><td>No Carrier</td></tr><tr><td>04</td><td>Command string problem (Contact ID)</td><td></td><td></td></tr><tr><td>06</td><td>No dial tone</td><td>07</td><td>Busy</td></tr><tr><td>08</td><td>No Answer</td><td></td><td></td></tr><tr><td>90</td><td>Init string has been sent to the Modem.</td><td>99</td><td>CTS has gone Low.</td></tr></table>	00	Modem is idle	01	Modem OK	02	Ring Signal detected	03	No Carrier	04	Command string problem (Contact ID)			06	No dial tone	07	Busy	08	No Answer			90	Init string has been sent to the Modem.	99	CTS has gone Low.
00	Modem is idle	01	Modem OK																						
02	Ring Signal detected	03	No Carrier																						
04	Command string problem (Contact ID)																								
06	No dial tone	07	Busy																						
08	No Answer																								
90	Init string has been sent to the Modem.	99	CTS has gone Low.																						

External Modem Options

Options are reached by pressing HELP, “9” at the Active/Idle screen. Options are divided into common options and less common or Special options. Usually, only common options need be programmed.

Special options are reached by pressing HELP, “9” twice at the Active/Idle screen.

```
CT001    Rings to
Answer:  000
```

This screen sets the number of rings to answer an incoming call. Legal values are between 001 and 015 rings.

CT001 Port ->
to use: 0

This screen sets the external port to be used in conjunction with the appropriate modem accessory cable. Legal port settings are 1 to 4 depending on the type of external UART Expander installed on the Control Module. Port 0 is not allowed. The port number is selected by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Dataspeed) at which the UART will communicate with the modem. Depending on the modem type however, it is not necessarily the Baud rate of a modem connection. The setting will be chosen according to the type of modem being used and is selected by scrolling through the available options using the right arrow key. It is recommended that the Baud rate be set no higher than 9600 Baud.

See "Comms Task Baud Rates" in Comms Task Programming [MENU 7,3,1]

External Modem Special Options

Special options are reached by pressing HELP, "9" twice at the Active / Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options, when programming of special options is complete.

CT001 Dial PpDF
Options -> nnnn

This screen sets various dialling options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default).
F	Not Answer Call	Not used in "Ext. Modem" Comms Task.
T	Test Mode	Not used in "Ext. Modem" Comms Task.
M	Max Count	Not used in "Ext. Modem" Comms Task.
.	Spare	Spare for future development.
6	60 sec Redial	This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations.

CT001 PABX No.->
None

These screens allow the installer to define an optional PABX Access number and Call-back Telephone Number. When the Call-back number is defined, extra security is provided by forcing the task to ring back this number on a successful log-on sequence as an added precaution against "hacking".

CT001 PABX No.->
TN000

Telephone numbers are selected from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number, if desired.

CT001 Back No.->
None

See Telephone Number Programming.

CT001 Back No.->
TN000

NOTE: Callback **not** implemented in "Ext Modem" Comms Task Format.

CT001 Cust No.->
None

This screen allows the installer to specify the Telephone Number of the dialer line connected to the panel and is useful for reference purposes.

CT001 Cust No.->
TN000

CT001 Seize Aux
C01:X08

This screen allows an Auxiliary output to be specified that will turn on whenever the dialer line is seized and turn off whenever the dialer line is released.

CT001 DTMF Tone
Wait: 000/10 sec

This screen sets the time a task will wait to sense the DTMF tone when in fax bypass mode. The time is programmable from 1/10 second to 255/10ths of a second (25.5 secs). If this option is left at 000/10 then the default time of 5 seconds will be used.

The DTMF tone wait time is also used as the main dial tone wait time in Callback operation and is best left at its default value (000/10) if Callback is utilised.

If the phone is ringing whilst attempting a call back, the Model 3000 will wait till the ringing stops before trying to dial.

*NOTE: Fax Bypass **not** implemented in "Ext Modem" Comms Task Format.*

CT002 Single
DTMF Tone: 000

This screen allows the Installer to specify the DTMF tone which will be used to initiate the modem answer sequence in fax bypass mode and also selects the tone that will be used to initiate DTMF Control Mode. The programmed tone is the one that will initiate the modem connect sequence. The programmed tone plus one is the tone that will initiate DTMF Control Mode..

eg. if "005" is programmed, the DTMF digit 5 will be the Fax bypass tone in PC Direct and DTMF tone 6 will initiate DTMF Control Mode.

NOTE:

*DTMF Control mode **not** implemented in "Ext Modem" Comms Task Format.*

CT001 Line Test
Count: 000

This screen sets parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

CT001 Answer
Wait: 000/10 sec

This screen allows an answer wait time between 0 and 255/10ths of a second (25.5 seconds) to be programmed. The default is 0 seconds. When a non-zero answer wait time is programmed, upon answering the call and accessing the interpreter for upload/download, all incoming characters will be ignored until the answer wait time has expired. This is useful when connecting with a mobile data network where unnecessary additional characters are output immediately after modem connection.

The Answer Wait time is also used as the PABX dial tone wait in Callback operation and is best left at its default value (000/10) if Callback is utilised.

CT001 **.R..**
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Inet” Comms Task Format

Purpose.

The purpose of the Inet Comms Task is to allow multiple panels to communicate alarm data and a limited amount of database editing commands to and from an automation package via an RS232 based network. The Inet Comms Task is available in Control Module firmware V3.5 or later.

Overview.

Inet is a Comms Task within the Model 3000/Access 4000. Inet is designed to allow up to 65000 panels to be addressed to a central point via RS232. Although 65000 panels can be individually addressed, the amount of traffic generated on a single RS232 link would exceed the practical limits of the communications network. Therefore a general limit of 300 panels per RS232 network is advised.

Inet can communicate alarm activity in both the IRFast and Contact ID formats (4+2 format NOT supported). When reporting via IRFast format Inet also provides the ability to send the raw text review event for that alarm activation. (Note that Inet is currently only supported in English language version)

Features.

- Full Duplex communications up to 9600 baud.
- Individual Alarm reporting from multiple panels to a single point via RS232.
- Individual reporting of all modules when using IRFast.
- Panel entity Control such as Areas, Doors and Auxiliaries.
- Permanent Connection.
- Automatic Backup task to IRFast and Contact ID via Dialer.

Connection.

The Inet task was initially developed to communicate via an ULTRAK RD19 Multiplexer to a PATRIOT II (V3) automation package. Connection of the Model 3000/Access 4000 to the network is achieved via an RS232 UART (P/N. 993065, 993066, 993068). The standard PC Interface cable (P/N. 993025 or 993009) can be used to connect to RS232 devices.

No hardware flow control is used so therefore only RX, TX and GND are utilized.

Configurations.

There are basically three typical system configurations, although the first is not practical it is the simplest method of using the Inet task.

1. A single Model 3000/Access 4000 panel is connected via RS232 to a PATRIOT PC. This is the most basic configuration and is given as an example only.
2. Multiple Model 3000/Access 4000 panels can communicate to PATRIOT via an RD19 MUX. When using a single RD19 up to 8 panels may be connected via RS232.
3. Up to 8 RD19 Multiplexers each supporting up to 8 Model 3000/Access 4000 panels can be connected to another RD19 which then connects to PATRIOT. By continuing this method in a “pyramid” style layout, it is possible to connect hundreds of panels back to the one common point.

Note that any of the above configurations can be extended by the use of protocol converters as discussed under “Network design considerations” on the following page.

Network design considerations.

Traffic.

Along with limitations of the protocol being used as discussed below, communications traffic is the biggest limitation of the Inet comms task. When designing a network that will involve the use of the Inet format, considerations must be made as to the expected levels of traffic during normal, peak and worst case scenarios of operation. For example, a small network of 10 panels, with less than 100 zones on each network would have a fairly minimal normal traffic level. Assuming a power failure occurred on every system at the same time, each panel would send up to 5 alarm message (depending on the number and type of expander used) back to the automation system at the same time. This would be a total of 50 messages that would all have to be processed and acknowledged. This is an example of a worst case scenario. To help deal with such a scenario, communication devices with their own internal buffers may be necessary. In addition to this the backup comms task may also be utilized to send the information via another Task.

RS232.

The RS232 protocol has a distance limitation by nature. The maximum reliable distance for RS232 is 15 metres (50 feet) @ 300 baud. Increases in baud rate will reduce this distance. To increase the distance panels may be away from the device they are communicating with, converters are required. As to what type of converter is used depends mainly on application and cost.

Non RS232 Networks.

It is now more common for a TCP/IP network to be readily available in most installations. In this case you would require a TCP/IP to RS232 converter such as a Lantronic MSS100.

If a network is unavailable then a converter such as RS422, 485, or "short haul" type may be used. Such converters should firstly be checked for their specification and transparency for the signal they will carry. Depending on the application, either the Model 3000/Access 4000, the Software and/or the communication protocol being used may be effected by any delays or infringement on the transmitted signal.

Inet Options

CT001 Idle ->
Inet

Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into common options and less common or Special options.

Special options are reached by pressing HELP, "9" twice at the Active / Idle screen.

A Backup Comms Task may be programmed by pressing HELP, "9" three times at the Active/Idle screen.

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the Multiplexer or PC will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 2400

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the Multiplexer or PC. The Baud Rate is selected by scrolling through the available options using the right arrow key. A maximum setting of 9600 Baud may be used, however a Baud rate of 2400 is recommended.
See Comms Task Baud Rates in Comms Task Programming [MENU 7,3,1]

Inet Special Options

CT001 Client
Code: 0000

This screen sets the panels primary network address as well as the primary client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the "Multiple Area Client Code" is set, it is possible for a different client code to be used.

CT001 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

- | | |
|--|---|
| <p>M Multiple Area Codes</p> | <p>If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application)</p> |
| <p>L Look Ahead</p> | <p>Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if communication takes a long time to get through to the Central Station or if reports are being generated faster than they can be sent. If this option is set to "Y", Look Ahead operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single Zone/Input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet. Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors.</p> |

G **General O/C** This option selects general open and close reporting. Whenever **all** Areas are turned ON a general Area close is reported. As soon as the **first** Area is turned OFF, a general Area open is reported.

In Area programming, some Areas can be nominated as “Not General Area” and are ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this “General Open/Close” option set to YES. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming “Not General Area” option for details.

P **Prevents Restores** This option prevents restores being sent via this Comms Task.

N **No Area Still Open** In Area programming, it is possible to enable reporting of “Area Still Open” and “Area 24Hour Offs”. Not all reporting formats can handle these reports. Setting this option to “Y” will disable these reports for this Comms Task. If it is necessary that these events be reported, an additional Comms Task should be programmed using the IRfast format which supports them.

CT001 Area List Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

CT001 EOA..... Efilt-> nnnnnnnn

The “Extra Filter” screen option allows a Comms Task to only respond to certain types of events.

E **Extra Filter** This option enables Extra Filter options. If left at “n”, no extra filtering is used. ie. normal operation.

O **Opens/Closes** This option enables Opens/Closes reports to be sent via this Comms Task.

A **Alarms** This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.

. **Spare** Spare options for future filters. Leave set to “n”.

For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via Inet, set the Securitel Comms Task with the “E” and “O” Extra Filter options and the Inet Comms Task with the “E” and “A” Extra Filter options.

CT001 Mapping -> Standard

This screen determines the input mapping for this Comms Task. In order to cater for different types of system configurations within the limitation of the number of points available in the Contact ID format, several input mapping options have been provided as listed in the following table:

Contact ID Mapping options:

- Standard
- MAP-1
- School 30
- School 19
- SIMS II
- Access-1 (V3 or later)
- Pacom (V3 or later)
- Standard-2 (V3.5 or later)
- School 19B (V3.59 or later)

For more details of Mapping options refer to “Comms Task Formats” at the beginning of this section and to the tables at the rear of this manual.

Because IRfast format doesn’t require mapping, this mapping selection is used to determine the Contact ID mapping to be used when Contact ID information is to be sent in addition to native IRfast information.

Inet Extra Options

The Extra options may be programmed by pressing HELP, “9” three times at the Active / Idle screen.

CT001 T.....EN
OptS -> nnnnnnnn

The “Inet Options” screen sets the following specific Inet options.

T Translate.

This option must be set to YES for the Inet Comms Task to operate correctly.

E Encrypt.

This option is set to YES to allow an Encrytion key (programmed in the next screen) to be sent with each data packet. Note that if set to Yes, encryption must be available and enabled in the Automation software that the Inet Comms Task is communication with. (V4 or later only)

N No CRC

This option is for diagnostic purposes only and should not be enabled unless instructed to do so by the manufacturer.

CT001 Encryption
Key: 00000000

This screen sets the Encryption key to be used when the “E”ncrypt option above is set to YES. The Encryption key is programmed as eight Hexadecimal digits and must be the same as the encryption key programmed in the Automation software that the Inet Comms Task is communicatint with. (V4 or later only)

CT001 Alarm
Format: 0

This screen selects the primary reporting format to be used in this Inet installation.

- 0 IRfast.
- 1 Text.
- 2 Contact ID.
- 3 Time Only (Not yet implemented)

**CT001 Ack Time
(sec) 000**

This screen sets the amount of time that Inet will wait for an acknowledge from the PC to an alarm transmission. Valid values of 5 to 255 seconds will be accepted. If left at 000, then a value of 20 seconds will be assumed.

**CT001 Test time
(sec) 000**

This screen sets the time between TEST reports that are sent to the automation system. When a valid communication is sent, this timer is reset. Valid values between 5 to 255 seconds will be accepted. If left at 000, then a value of 30 seconds will be assumed.

**CT001 Pace Time
(100mS) 000**

This screen is used for diagnostic purposes only and should be left at 000. Valid values are between 1 to 255 in 100mS increments. If left at 000, then a value of 5 seconds will be assumed.

**CT001 Backup
Task: CT000**

This screen allows the Installer to specify which Comms Task is to be used as the Backup Comms Task. A Backup Comms Task for Inet can be IRfast Backup, Contact ID Backup or GSM modem.

IMPORTANT NOTE: Whenever the Inet Comms Task is used, at least 1 spare Comms Task must be left available. Inet, when set to "Active" will automatically generate a "Buffer" Comms Task in the next available Comms Task position. While Inet is active this Task cannot be set to Idle or deleted.

Backup Tasks.

The Inet comms task allows a dialer backup task to be assigned should Inet fail to communicate successfully with the automation system. Inet will attempt to re-send any unacknowledged alarm message twice. If an acknowledge is still not received the alarm message will then be sent via the appropriate backup task if programmed. Backup Comms Tasks are available in IRFast, Contact ID and GSM modem formats. (GSM requires V3.5 or later)

Diagnostics**CT001 ..R.
Status -> nnnn**

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

R **Retry**

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

. **Spare**

Spare for future development.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Accept” Comms Task Format (Previously Comm-Pass)**Overview**

Selecting the Comms Task “Accept” allows communications with the Accept System Management Software. This Windows based software package is installed on a PC and allows Database maintenance, Control, System monitoring and alarm handling. An IRP_x UART board is required to provide the Serial Data port for connection to the PC Serial Port.

Important

1. With V2 firmware only the Access 4000 can connect to Accept V2.
With V3 the Model 3000 and Access 4000 can connect to Accept V3.
2. The 3000 Control Module firmware must be at least V3.0.

Accept Options

CT001 Idle ->
Accept

Options are reached by pressing HELP, “9” on the Active/Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need be programmed.

Special options are reached by pressing HELP, “9” *twice* at the Active/Idle screen. Changes will only take effect if the Comms Task is idle.

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the PC will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the PC. The Baud Rate is chosen by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended.

See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1].

Accept Special Options

Special options are reached by pressing HELP, “9” *twice* at the Active/Idle screen or by pressing HELP, “9” from any common options screen. HELP “0” will take you back to the common options when special options is complete.

CT001 Client
Code : 0000

This screen sets the Client Code to be used for this Comms Task. The Client Code is programmable in decimal from 0001 to 9999. **A Client Code of “0001” must be used for ACCEPT.**

CT001 MLGPN...
Ropts-> nnnnnnnn

This screen sets various reporting options:

These should all be set to “n” for ACCEPT.

- | | | |
|----------|--------------------|---|
| M | Multiple Area | Multiple Area client codes are not used in the Accept format. This option should be set to “n”. |
| L | Look Ahead | Normally, all reportable events will be sent in the order in which they occurred; one at a time until no more reports are required. The Comms Task will guarantee the order will not alter, even if the dialler takes a long time to get through to the Central Station or if alarm reports are being generated faster than they can be sent. If this option is set to “Y”, Look Ahead operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single zone/input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet . Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors. |
| G | General Open/Close | This option selects General Open/Close reporting. Whenever all Areas are turned On, a general Area close is reported. As soon as the first Area is turned Off, a general Area open is reported. In Area Programming, some Areas can be nominated to be ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this “General Open/Close” option set to YES. |
| P | Prevents Restores | This option prevents restores being reported via this Comms Task. |
| N | No Area Still Open | This option selects No Area Still Open or Area 24Hr Off reports. In Area Programming, it is possible to enable reporting of “Area Still Open” and “Area 24Hour Offs”. Not all reporting formats can handle these reports. Setting this option to “Y” will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format. |
| . | Spare | Spare for future developments. This option must be set to “n”. |

CT001 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is selected, only the information from Areas in the specified Area List above will be sent using this Comms Task. **Leave set to AL000 for ACCEPT.**

CT001 EOA.....
Efilt ->nnnnnnnn

The “Extra Filter” screen options allow a Comms Task to only respond to certain types of events. For example, to set up a Model 3000 so that only alarms/tampers/isolations go via Direct Line, set the Direct Line Comms Task with the “E” and “A” options set to “Y”. Opens/Closes will not be sent.

These should all be set to “n” for ACCEPT.

- | | | |
|----------|---------------|---|
| E | Extra Filters | This option enables the Extra filter options. If left at “n”, no filtering is used. ie. normal operation. |
| O | Open/Closes | This option enables Open/Closes to be sent via this Comms Task. |
| A | Alarms/T/I | This option enables Alarms/Tampers/ Isolations to be sent via this Comms Task. |
| . | Spare | Spare for future developments. This option must be set to “n”. |

Accept - Extra Options

Extra Options are reached by pressing HELP, “9” *three times* at the Active/Idle screen or by pressing HELP, “9” from the Special Options screen. HELP, “0” will take you back to the Special Options screen when programming of Extra Options is complete.

CT001 ...SPCKD
Sopts ->nnnnnnnn

The Extra Options screen allows the programming of settings which are unique to Accept.

S	Single User	Set this option to “Y” . This option set to “Y”es by default in V4.0 or later.
P	Packet Numbers	This option enables packet numbers in Debug mode. Leave set to “n”.
C	CRC On	This option enables CRC in Debug mode. Leave set to “n”.
K	Key Default	This option defaults the Encryption Key. Set this option to “Y” on the first communication with ACCEPT. Having connected, the system will automatically reset this flag to “n”. This option set to “Y”es by default in V4.0 or later.
D	Debug Mode	This is a factory facility only. Leave set to “n”.
.	Spare	Spare for future use. Set to “n”.

Diagnostics

CT001 ..R.
Status -> nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

“Poll-Data” Comms Task Format

The “Poll-Data” format allows an external intelligent system to obtain alarm information from the Model 3000 or Access 4000 using one of the UART Ports. The external system regularly polls the panel for alarm data, thereby ensuring that both systems are aware that the other is operational. A simple protocol provides for error free transfer of alarms. At this time, alarm information can be returned in the Contact ID format or as system text.

Compatible external systems.

Guardall (New Zealand) Tripad.

Provides a supervised communications link for the transmission of Alarms & other Events to Alarm Monitoring Software via TCP/IP and Ethernet based local and wide area networks (LANs and WANs).

This allows existing Corporate or Public networks to be used for alarm monitoring. The Tripad can also connect to a second 3000/Access 4000 UART Port to provide for connection of Upload/Download software over the same network.

Santana CCTV Camera Management System interface.

Provides a supervised communications link that allows 3000/Access 4000 Alarms and other Events to control operations on a CCTV Camera controller such as a MAX1000. The Santana interface translates the panel's Contact ID data into the required Camera Management System commands.

The RS232 connection between the 3000/Access 4000 UART Port and the Santana Interface can be via TCP/IP using suitable protocol converters.

Operation

All characters sent or received are displayable ASCII characters. All data from the external system begins with a line-feed and ends with a carriage return. The maximum number of characters that may be sent to the external system in one packet is 160 characters.

Communication is always initiated by the external system sending a single character command. The panel will reply with a multiple character packet within 2 seconds maximum. The 3000/4000 will discard any characters received whilst it is sending a reply.

The 3000/4000 expects a legal command every 30 seconds. If a command is not received within 30 seconds the panel considers communications to have failed and sets the panel Comms Fail system input to the alarm condition. A legal poll will restore the alarm condition.

Backup Comms Task

A backup Comms Task can be defined if desired. If no valid poll has been received for 30 seconds (60 seconds on startup), the UART problems input will be placed in alarm and the backup Comms Task will be triggered. Alarms will now be sent via the backup Comms Task. When a valid poll is next received, if the backup Comms Task has not caught up yet then a “No Data” reply will be given. If a backup Comms Task has caught up, it will be terminated and control will be returned to the Poll Data Comms Task. The UART problems input will then be restored.

Poll-Data Options

CT001 Idle ->
Poll-Data

Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into common options and less common or Special options.

Special options are reached by pressing HELP, "9" twice at the Active / Idle screen.

A Backup Comms Task may be programmed by pressing HELP, "9" three times at the Active/Idle screen.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the Tripad will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the Tripad. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 9600 Baud is recommended. *See Comms Task Baud Rates in Comms Task Programming [MENU 7,3,1]*

Poll-Data Special Options

CT001 Client
Code: 0000

This screen sets the client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the "Multiple Area Client Code" is set, it is possible for a different client code to be used.

CT001 MLGPN...
Ropts -> nnnnnnnn

This screen sets various reporting options:

M Multiple Area Codes

If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application)

L Look Ahead

Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if communication takes a long time to get through to the Central Station or if reports are being generated faster than they can be sent. If this option is set to "Y", **Look Ahead** operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single Zone/Input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet. Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors.

- G

General O/C

This option selects general open and close reporting. Whenever **all** Areas are turned ON a general Area close is reported. As soon as the **first** Area is turned OFF, a general Area open is reported.
- In Area programming, some Areas can be nominated as “Not General Area” and are ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this “General Open/Close” option set to YES. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming “Not General Area” option for details.
- P

Prevents Restores

This option prevents restores being sent via this Comms Task.
- N

No Area Still Open

In Area programming, it is possible to enable reporting of “Area Still Open” and “Area 24Hour Offs”. Not all reporting formats can handle these reports. Setting this option to “Y” will disable these reports for this Comms Task. If it is necessary that these events be reported, an additional Comms Task should be programmed using the IRfast format which supports them.

CT001 Area List
Filter: AL002

This screen allows an optional Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

CT001 EOA.....
Efilt-> nnnnnnnn

The “Extra Filter” screen option allows a Comms Task to only respond to certain types of events.

- E

Extra Filter

This option enables Extra Filter options. If left at “n”, no extra filtering is used. ie. normal operation.
- O

Opens/Closes

This option enables Opens/Closes reports to be sent via this Comms Task.
- A

Alarms

This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.
- .

Spare

Spare options for future filters. Leave set to “n”.

For example: To configure a Model 3000 system so that all openings and closings are sent via Securitel and all alarms/tampers/isolates go via Poll Data, set the Securitel Comms Task with the “E” and “O” Extra Filter options and the Poll Data Comms Task with the “E” and “A” Extra Filter options.

CT001 Mapping ->
Standard

This screen determines the input mapping for this Comms Task. In order to cater for different types of system configurations within the limitation of the number of points available in the Contact ID format, several input mapping options have been provided as follows:

- Standard

-Access-1 (V3 or later)
- MAP-1

-Pacom (V3 or later)
- School 30

-Standard-2 (V3.5 or later)
- School 19

-School 19B (V3.59 or later)
- SIMS II

For more details of Mapping options refer to “Comms Task Formats” at the beginning of this section and to the tables at the rear of this manual.

Backup Comms Task

A Backup Comms Task may be programmed by pressing HELP, “9” three times at the Active / Idle screen.

**CT001 Backup
Task: CT000**

This screen allows the Installer to specify which Comms Task is to be used as the Backup Comms Task.

Diagnostics

**CT001 .R..
Status -> nnnn**

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

"PACOM" Comms Task Format

The PACOM Comms Task format is used to transfer alarms to a PACOM 1026 Receiver via RS232. The basic Format is in Contact ID.

Enquiries regarding the PACOM format should be directed to your distributor or the manufacturer.

"IRfast Backup" Comms Task Format

This Comms Task format has been specifically designed to operate as a dialer communication backup to the primary reporting format. When triggered, the backup task monitors the status of the primary task and, provided all outstanding data has been sent, allows the means of reporting to resort back to the primary Comms Task when that task is once again operational.

CT001 Idle ->
IRfast Backup

As far as programming is concerned, this format is programmed in exactly the same manner as the normal IRfast format.

See "IRfast Comms-4" for programming options.

“CID Backup” Comms Task Format

This Comms Task format has been specifically designed to operate as a dialer communication backup to the primary reporting format. Once all data has been sent via the backup Task, communication will automatically revert to the primary task. In addition, if the primary Comms Task is “Securitel”, communications revert to using the designated UART port.

**CT001 Idle ->
CID Backup**

As far as programming is concerned, this format is programmed in exactly the same manner as the normal Contact ID format.

Refer to “Contact ID Comms-5” for programming options.

“GSM” Comms Task Format

INTRODUCTION

The Model 3000 / Access 4000 allows a GSM modem to be connected via a UART port to provide the 3000/4000 system with GSM Digital Mobile facilities. By selecting the GSM Comms task in conjunction with the required GSM Modem, the 3000/4000 is able to:

- Backup the hard-wired dialler with a wireless GSM transmission sending in Contact ID
- Send Contact ID data via the GSM network as the primary data path.
- Send alarms as text messages to nominated GSM mobile phones using the GSM short message service (SMS).
- Accept control commands from nominated or arbitrary GSM mobile phones via SMS text strings, to control the Model 3000 / Access 4000 and send back a text message confirmation via SMS.

The status and call progress of the GSM Modem can be followed or inspected via a comprehensive review log, including display of received signal strength to ensure installation is reliable.

IMPORTANT INSTALLATION NOTES.

GSM Modems.

Specific GSM Modem models are required for use with different Versions of Control Module Firmware:

<u>Controller Firmware</u>	<u>GSM Modem</u>	<u>Notes</u>
V3.5 to V4	FE2000 only (P/N:994090)	IR version. This GSM Modem is no longer available.
V4.5	FE3000 only.	Requires FE3000 GSM Modem I/F Cable. P/N: 994092 and the Options Microchip (U14) must be V1.13 or later.

FE3000.

The FE3000 must be defaulted to “Interface Mode” prior to connection.

Signal Strength.

The Model 3000 / Access 4000 can log GSM Modem Signal strength values to Review to assist with antenna positioning. For reliable communications, the signal strength should be better than -85dB.

Around -95dB, the Modem will fail to communicate.

-113 dB usually indicates no Antenna connected.

OPERATION

Sending alarms via Contact ID to a Central Station Digital Receiver.

The GSM Comms task can send alarm information as Contact ID to a Central Station Digital Receiver.

In the event of failure, a backup Comm Task can be defined, for example CID Backup using the normal PTSN telephone connection. All the usual reporting options are available including Area List and event filtering, look ahead, etc.

Backing up other Comms Tasks.

If the GSM Comms task is not used as the primary reporting task, it can still act as a backup to any other task that allows backup tasks to be defined. For example a Contact ID Comms Task using the PTSN telephone line can specify a GSM backup task, to report telephone line failures and alarms in the event the PTSN line fails or is compromised.

All SMS facilities are available when acting as backup task, including alarm reporting via SMS. (A new dialling option has been added to all dialling Comms Tasks to allow a backup Comms Task to be triggered immediately if no line is detected)

Sending text alarms to a GSM mobile phone.

Alarms, presented as review style text, can be sent using the SMS to any GSM mobile phone. This feature can be used in conjunction with, or instead of, sending alarms via the GSM network using Contact ID.

"Xmit" type review entries are sent and can be filtered with event types (Open/Close Events and/or Alarm Events) and Area Lists. The text is displayed on the GSM mobile phone screen.

The System will send the specified messages to the nominated GSM Mobile phone with a validity period of 168 hours (1 week). i.e. The message will be discarded by the network if not received by the nominated Mobile phone within 168 hours. (Note: Validity time was 5 minutes in FE2000 GSM Modem firmware V1.04 or earlier shipped in June/July 2000. The firmware in these earlier units can be upgraded to V1.05 or later to provide 168 hours Validity time)

The SMS Alarm message text.

SMS Alarms are any "Xmit" Review entries that match the send criteria and are sent in a text format similar to review text. The send criteria are programmed in the Comms Task and also in the relevant Process Groups if V4.5 or later. The text message comprises the following components:

```
<Date & time>
<"Xmit [input state] on">  Input State = alarm/tamper/isolate/restore
<Input name>
<Abbreviated input name>
<"in">
<Area name>
<Flags>                    For debugging purposes.
<Alarm ID>                 V4.5 or later only. For SMS Alarm Acknowledgement.
```

For example:

Jan01 14:02:45.4

Xmit Alarm on FACTORY PIR (E02:Z09) in FACTORY saAo 01AA

The abbreviated name input is included so that the receiver can isolate the Zone if they wish, without having to remember the Zone ID.

Additional SMS Alarm messaging features available in Control Module Firmware V4.5 or later.

Filtering messages by Alarm Type.

Two new programming screens are provided in Process Group programming to allow the type of SMS Alarm Messaging and the nominated Telephone number/s to be defined. This allows SMS Alarm messages to be limited to specific types of alarms and also allows for different types of alarms to be sent to different Telephone numbers.

Sending SMS Alarms to multiple Mobile Phones.

The Process Group programming options allow the installer to select whether the SMS Alarms will be sent to a single Telephone number or a series of Telephone numbers.

SMS Alarm Acknowledgement feature.

One of the Process Group programming screens allows the installer to select whether SMS Alarms need to be acknowledged. If the SMS Alarm needs to be Acknowledged and is being sent to a series of Telephone numbers, once the Alarm is acknowledged, the message will not be sent to any more Telephone numbers in the series.

A 4 character ID string is attached to the end of every SMS Alarm message. The 1st two characters indicate which mobile phone in the series the message is being sent to, and the 2nd 2 characters are the actual Alarm ID.

This allows up to 576 unique Alarm IDs before wrap-around occurs.

e.g. 01AA = 1st phone number tried for Alarm ID "AA". 03AF = 3rd phone number tried for Alarm ID "AF"

NOTE: Open/Close messages also have an ID, but do not need to be acknowledged.

To acknowledge an Alarm, the phone user simply replies to the message sender with a "K", followed by the Alarm ID.

e.g. To acknowledge Alarm ID "AA". Send KAA. (No PIN number is required. The senders phone number is checked)

If there are multiple alarm messages to be acknowledged, the additional Alarm IDs can be added to this reply.

e.g. To acknowledge Alarm IDs "AF", "AG" and "AH". Send KAFAGAH

Up to 8 Alarms can be outstanding (waiting for acknowledgement) at any one time and each Alarm has its own Acknowledge timer. Subsequent Alarms (relevant "Xmit" review entries) are buffered and sent as soon as an Acknowledge timer is free. NOTE: For diagnostic purposes, the operation of the 8 SMS alarm states can be monitored in Review by enabling Detailed Review mode in the General System options, MENU 7, 5, 1.

The "R" command can be sent to clear any pending SMS Alarms that have not begun to be sent. This can be sent from the "SMS 2" phone without a PIN code, or from any phone using a valid PIN code from the 1st 32 Users.

See "Process Groups" (MENU, 2, 4, 3) for more details and examples.

Controlling a Model 3000 / Access 4000 via a GSM mobile phone.

The GSM SMS can be used to send short text style commands to the 3000/4000 to:

- ✓ Turn on/off a home auxiliary.
- ✓ Turn on a home auxiliary for a specified time in minutes.
- ✓ Turn on a home auxiliary for a specified time in seconds.
- ✓ Turn on/off an area.
- ✓ Request the current name and state of any 6 home auxiliaries.
- ✓ Request the current name and state of any 6 areas.
- ✓ Isolate/Restore a zone.
- ✓ Discard pending SMS messages waiting to be sent.
- ✓ Request a short help message

All actions are recorded to review and a message is sent back to the GSM mobile phone to confirm the action when appropriate.

Sending Text Commands via SMS

Text commands may be sent to the Model 3000 / Access 4000 from any SMS capable GSM mobile phone. If the command is valid and accepted, a reply will be sent back to the sender's GSM phone.

There are two forms of authorisation:

1. (P)IN Option clear

V3.5 to V4. Commands may be received from either SMS1 or SMS2 GSM phones without a PIN number entered.

V4.5 or later. Commands may be received from the SMS2 GSM phone without a PIN number entered.

The user will be marked as "unknown". Alternatively a command may be received from any GSM phone if preceded by a valid PIN number within the 1st 32 users. The user type must NOT be set to "None".

2. (P)IN Option Set

A valid PIN number from within the 1st 32 users must precede commands. Any GSM phone can be used.

The user type must NOT be set to "None".

Additional Notes.

- If the user is marked as "unknown", no further checks are made to see if a user is allowed certain operations.
- If a PIN number was used, operations may be restricted according to user programming.
- The command letters can be uppercase or lower case. Only one command may be sent per SMS message.

The following table shows the available commands:

SMS Control Commands

Command Letters	Description
HE	Returns a SMS message, listing the available commands. Any User may use this command.
AnnnN (Needs "A" Option set)	Turn Area nnn On. Leading zeros are not required (eg. Turn on Area 3 is <PIN>A3N.) If a valid User is present the Area must be in the User's Area On List. The reply is: <area name> is now <on/off> or <area name> <error message>.
AnnnF (Needs "A" Option set)	Turn Area nnn Off. Leading zeros are not required (eg. Turn on Area 34 is <PIN>A34F.) If a valid User is present the Area must be in the User's Area Off List. The reply is: <area name> is now <on/off> or <area name> <error message>.
HnnnN (Needs "X" Option set)	Turn Home Auxiliary nnn On. Leading zeros are not required (eg. Turn on Home Auxiliary 112 is <PIN>H112N.) The Home Auxiliary must be marked for SMS control. If a valid User is present, the User Home Auxiliary types need to match the Home Auxiliary type being controlled. The reply is: <home aux name> turned <on/off> for <xxx> sec/min.
HnnnF (Needs "X" Option set)	Turn Home Auxiliary nnn Off. Leading zeros are not required (eg. Turn off Home Auxiliary 4 is <PIN>H4F.) The Home Auxiliary must be marked for SMS control. If a valid User is present, the User Home Auxiliary types need to match the Home Auxiliary type being controlled. The reply is: <home aux name> turned <on/off> for <xxx> sec/min.
HnnnNyyyS (Needs "X" Option set)	Turn Home Auxiliary nnn On for yyy seconds. Leading zeros are not required. yyy can be from 1 to 255. (eg. Turn On Home Auxiliary 23 for 56 seconds is <PIN>H23N56S.) The Home Auxiliary must be marked for SMS control. If a Valid Use is present, the User's Home Auxiliary Type must match the Home Auxiliary Type being controlled. The reply is: <home aux name> turned <on/off> for <yyy> sec/min.
HnnnNyyyM (Needs "X" Option set)	Turn Home Auxiliary nnn On for yyy minutes. Leading zeros are not required. yyy can be from 1 to 255. (eg. Turn On Home Auxiliary 2 for 5 minutes is <PIN>H2N5M.) The Home Auxiliary must be marked for SMS control. If a Valid Use is present, the User's Home Auxiliary Type must match the Home Auxiliary Type being controlled. The reply is: <home aux name> turned <on/off> for <yyy> sec/min.
AnnnL (Needs "L" Option set)	Returns a SMS message, listing the names and states of 5 Areas beginning at Area nnn. (eg. To return the name and on/off state of Areas 12,13,14,15,16 send <PIN>A12L.)
HnnnL (Needs "L" Option set)	Returns a SMS message, listing the names and states of 5 Home Auxiliaries beginning at Home Auxiliary nnn. (eg. To return the name and on/off state of Home Auxiliaries 45,46,47,48,49 send <PIN>H45L.)
ZTxxZyyI (Needs "I" Option set)	Isolates Zone TxxZyy where T=Type, xx=module number and yy=Zone number. (eg. To Isolate Zone 12 on Big Expander 3 send <PIN>ZB03Z12I.) The reply is: <input name> isolated.
ZTxxZyyR (Needs "I" Option set)	Restores Zone TxxZyy where T=Type, xx=module number and yy=Zone number. (eg. To Isolate Zone 12 on Big Expander 3 send <PIN>ZB03Z12R.) The reply is: <input name> restored.
R	Resets the SMS pointer. This command cancels any pending alarms that are queued in the main buffer to be sent via SMS and resets the SMS 5 minute timer used to pace SMS messages. If SMS List function is used this command will not clear any SMS Alarm that has already begun to be sent to the numbers in the List. (There can be up to 8 Alarms outstanding that have begun to be sent at any one time)

CT001 Idle ->
GSM

This screen allows the programmer to select a Comms Task to programme by using the up and down arrows or by entering a number.

The screen has three roles:

1. It allows a Comms Task format to be selected by using the right arrow key to cycle through all the available formats. Pressing the OFF key selects no format for this Comms Task and goes to the start of the list of available formats.
2. The "9" key is used to toggle the Comms Task between the "Idle" state and the "Active" state. **A Comms Task format cannot be changed or programming changes made unless the Comms Task is idle.**
3. Pressing HELP, "9" will allow options to be programmed for the particular format chosen for that Comms Task. It is recommended that options are only changed when the Comms Task is idle.

Example: GSM has been selected for Comms Task CT001

Although a format has been chosen, because the Comms Task is idle, no dialling or reporting will take place.

CT001 Idle ->
GSM

Options are reached by pressing HELP, "9" at the Active/Idle screen. Options are divided into Options, Special Options and Advanced Options.

Special options are reached by pressing HELP, "9" *twice* at the Active/Idle screen. Advanced options are reached by pressing HELP, "9" *three times* at the Active/Idle screen.

Options Programming

CT001 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the GSM Modem will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key. Port 0 is not allowed.

CT001 Baud ->
Rate: 2400

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the GSM Modem. The Baud Rate is selected by scrolling through the available options using the right arrow key.

-A setting of 2400 Baud is mandatory for the FE2000 GSM Modem up to V1.07.
(Unit supplied in Black Plastic enclosure)

-A setting of 600 Baud is mandatory for FE2000 GSM Modem V8000 or later.
(Unit supplied in metal enclosure)

-This screen is not visible in V4.5 or later. Baud rate is preset to 9600 for FE3000.
See Comms Task Baud Rates in Comms Task Programming [MENU 7,3,1].

CT001 Serv. No->
None

This screen sets the SMS service centre number, which can be obtained from the Network you subscribe to. It is mandatory for any SMS operations. It must be entered in international format starting with the country code. For example: "61418706700" is the Telstra Australia SMS service number. Available Phone Numbers are as per those set in Phone Number Programming [MENU 7,3,2].

**CT001 SMS1 No.->
None**

This screen sets the SMS mobile phone number that SMS alarm messages are going to be sent to. This number can also be used to send SMS text commands back to the C3000 (V3.5 to V4 only). It must be entered in international format starting with the country code. (Time-Zone logic on Phone Numbers is active). Available Phone Numbers are as per those set in Telephone Number Programming [MENU 7,3,2].

IMPORTANT NOTES FOR V4.5 OR LATER:

1) If any SMS Alarm messaging is required, the "Tx SMS" option and "SMS No." must be programmed in the relevant Process Groups. MENU, 2, 4, 3.

The "Tx SMS" options include the following features.

- Different types of Alarms can be sent to different Telephone numbers.
- Acknowledgement of SMS Alarm messages.
- SMS Alarm messages can be sent to multiple Telephone numbers.

2) If these options are programmed, the "SMS 1 No." only needs to be programmed for receiving Area Open/Close reports and FE3000 System Input Alarms. No Acknowledgement is required for Open/Close reports.

3) If Alarm acknowledgement is required, the "SMS Ack Time" must also be programmed in this Comms Task.

4) If this Comms Task is programmed to report SMS text messages ("S" option in the BCSAP.DR screen) and the "SMS 1" Telephone number is not programmed, the SMS Event filtering must be programmed to Disable Open/Close reporting. e.g. Set to YnY

If this is not done, a "No Ack" Review message and the "GSM Problems" System Input will be triggered.

**CT001 SMS2 No.->
None**

This screen sets a 2nd SMS mobile phone number that can be used to send SMS text commands to the Concept 3000. Alarms cannot be paged to this number. It must be entered in international format starting with the country code. (3000/4000 Time-Zone logic on Phone Numbers is active). Available Phone Numbers are as per those set in Phone Number Programming [MENU 7,3,2].

**CT001 CID No. ->
None**

This screen sets the Central Station Digital Receiver telephone number. It must be entered in international format starting with the country code. Note that no backup number exists at this time. (Time-Zone logic on Phone Numbers is active). Available Phone Numbers are as per those set in Phone Number Programming [MENU 7,3,2].

**CT001 GSM Reg.
Zone: C01:Z01**

This screen allows any unused zone input to be used to signal changes in the state of the GSM modem registration. The input is alarmed when the modem de-registers and sealed when the modem re-registers. The (I)gnore option in Zone Input Programming must be set for that zone so that the actual input is ignored and used only as a phantom zone. (Used to be (C)alc option)

Special Options
**CT001 BCSAP.DR
Opts -> nnnnnnnn**

This screen allows a number of reporting options to be set.

B	Backup	If set to Yes, Contact ID alarm messages will only be sent as a backup to one or more other Comms Task. IMPORTANT NOTE: When a GSM Comms Task is programmed for Backup only, there is no periodic testing performed to ensure that the GSM Modem Reporting is fully operational. (The GSM Task would only be used if the Primary Comms Task fails)
C	Contact ID	If set to Yes, Contact ID alarm messages will be sent via this Comms Task when required.
S	SMS	If set to Yes, Short Message Service (SMS) text style messages will be sent to GSM mobile phones according to pre-programmed SMS Options as defined in the following screens. <i>See "SMS 1" Telephone number for more information.</i> IMPORTANT NOTE: V4.5 or later. Process Group Options for "Tx SMS" and "SMS No." <u>must</u> also be programmed.
A	Answer Phone	This option is currently not used.
P	Pin Required	If set to Yes, this option forces all SMS command strings sent to the 3000/4000 that are preceded by the PIN number of any user between User1 and User32 to be accepted. If the (P)in option is not set, then text commands can only be accepted by the 3000/4000 if they originate from either of the pre-programmed SMS1 or SMS2 numbers. (SMS2 only if V4.5 or later)
.	Spare	Spare for future developments. This option must be set to "n".
D	Debug	The (D)ebug option is for manufacturer use only and should be set to (n).
R	RSSI Level	If set to Yes, this (R)SSI display option will cause the Network Registration and RSSI level to be saved to review every 5 seconds for the purposes of antenna placement. (Normally this review message is only saved when there is a change in Network Registration status. Permanently setting this option to Yes will cause review to be filled up very quickly.) For reliable communications, the signal strength should be better than -85dB. Around -95dB, the Modem will fail to communicate. -113 dB usually indicates no Antenna connected.

CT001 AXLI...N
SOpts-> nnnnnnnnn

This screen allows the Installer to set specific **SMS Options**.

A	Area control	If set to Yes, SMS control of Areas is allowed.
X	Home Aux. Control	If set to Yes, SMS control of Home Auxiliaries is allowed.
L	Status Requests	If set to Yes, SMS status requests of Areas and Home Auxiliaries are allowed.
I	Isolations/Restorals	If set to Yes, SMS isolation and restoral of Zone Inputs are allowed.
.	Spare	
N	No Error replys	If set to Yes, SMS Error replys will not be sent back to unauthorised Users.

**CT001 SMS Area
Filter: AL000**

This screen allows an area filter to be applied to all text messages sent using SMS to the SMS1 number on a GSM mobile phone.

**CT001 EOA.....
SMS Evt:nnnnnnnn**

This screen allows "Xmit" type only entries sent via SMS to be filtered according to the options specified.

E Event Filter

This option allows SMS Event Filtering.

O Open/Close

If set to Yes, Open and Close events may be sent via SMS. For this option to function correctly the (E) Event Filter option must also be enabled.

A Alarm

If set to Yes, Alarm events may be sent via SMS. For this option to function correctly the (E) Event Filter option must also be enabled.

NOTE: See "SMS 1" Telephone number programming for more information.

**CT001 MLGPN...
Mopts-> nnnnnnnnn**

This screen allows the Installer to specify a number of SMS reporting options.

M Mult. Client Codes

If set to Yes, Multiple Area client codes may be sent via SMS.

L Look Ahead

Normally, all reportable events will be sent in the order in which they occurred; one at a time until no more reports are required. The Comms Task will guarantee the order will not alter, even if the dialler takes a long time to get through to the Central Station or if alarm reports are being generated faster than they can be sent. If this option is set to "Y", **Look Ahead** operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single zone/input will be ignored **if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet**. Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors.

G General Open/Close

This option selects General Open/Close reporting. Whenever all Areas are turned On, a general Area close is reported. As soon as the first Area is turned Off, a general Area open is reported. In Area Programming, some Areas can be nominated to be ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES.

P Prevents Restores

This option prevents restores being reported via this Comms Task.

N No 24Hr/Still Open

This option selects No Area Still Open or Area 24Hr Off reports. In Area Programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format.

. Spare

Spare for future developments. This option must be set to "n".

CT001 Max Msgs
per 5min : 000

This screen allows the Installer to restrict the maximum number of SMS “Xmit” type messages that may be sent in any 5 minute period. Note that messages will bank up if they are occurring faster than this rate. (The “R” command may be sent to discard any pending messages.)

NOTE: V4.5 or later. Exercise caution if using this option in conjunction with SMS List operation where an SMS Acknowledge timer is used.

CT001 Client
Code: 0000

This screen sets the primary client code when sending alarms via Contact ID.

CT001 Mapping ->
Standard

This screen determines the Contact ID input mapping for this Comms Task. In order to cater for different types of system configurations within the limitation of the number of points available in the Contact ID format, several input mapping options have been provided as follows:

- Standard
- MAP-1
- School 30
- School 19
- SIMS II
- Access-1 (V3 or later)
- Pacom (V3 or later)
- Standard-2 (V3.5 or later)
- School 19B (V3.59 or later)

For more details of Mapping options refer to “Comms Task Formats” at the beginning of this section and to the tables at the rear of this manual.

CT001 CID Area
Filter: AL000

This screen allows an Area filter to be applied to all CID data sent via the GSM Comms Task.

CT001 EOA.....
CIDEvt: nnnnnnnn

This screen allows **CID data** sent via GSM to be filtered according to the options set.

- E Event Filter On
- O Open/Close
- A Alarms

This option allows Contact ID Event Filtering.

If set to Yes, Open and Close events may be sent via Contact ID. For this option to function correctly the (E) Event Filter option must also be enabled.

If set to Yes, Alarm events may be sent via Contact ID. For this option to function correctly the (E) Event Filter option must also be enabled.

CT001 MLGPN...
Copts-> nnnnnnnn

This screen allows the Installer to specify a number of **Contact ID** reporting options.

- M Mult. Client Codes

If set to Yes, Multiple Area client codes may be sent via Contact ID.

L	Look Ahead	Normally, all reportable events will be sent in the order in which they occurred; one at a time until no more reports are required. The Comms Task will guarantee the order will not alter, even if the dialler takes a long time to get through to the Central Station or if alarm reports are being generated faster than they can be sent. If this option is set to "Y", Look Ahead operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single zone/input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet . Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors.
G	General Open/Close	This option selects General Open/Close reporting. Whenever all Areas are turned On, a general Area close is reported. As soon as the first Area is turned Off, a general Area open is reported. In Area Programming, some Areas can be nominated to be ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES.
P	Prevents Restores	This option prevents restores being reported via this Comms Task.
N	No 24Hr/Still Open	This option selects No Area Still Open or Area 24Hr Off reports. In Area Programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format.
.	Spare	Spare for future developments. This option must be set to "n".

CT001 Maximum Attempts: 002

Maximum Attempts. (V3.5 to V4 only)

This screen allows the Installer to specify the number of CID dialling attempts to be made when sending Contact ID via this Comms Task. Leaving this screen set at 000 selects the default of 002 attempts.

This screen is not shown in V4.5 or later as the number of attempts is determined by the FE3000.

CT001 SMS Ack Time: 000 min/4

SMS Acknowledge Time. (V4.5 or later)

This screen allows the Installer to define the period of time that the Controller will wait for an acknowledgement to an SMS Alarm message.

The period is programmed as a number of "Minutes divided by 4" i.e. 15 second increments from 15 Seconds to 63.75 Minutes.

(The timer may run slightly longer if a lot of SMS or Contact ID activity occurs)
If left at the "000" setting, the default value of 8 (2 minutes) will be used.

IMPORTANT NOTES:

This timer is only required if one of the "Tx SMS" options with an Acknowledge requirement is selected in Process Group programming. (MENU, 2, 4, 3)
e.g. "One # with Ack" or "List with Ack".

If the Acknowledge time expires without an Ack. being received from the phone that the message was sent to, a "No Ack" message will be saved to Review, and the "GSM Problem" System Input (C01:S30) is set to the Alarm state.

If the "List with Ack" option is selected, the Controller will wait for the specified SMS Ack time before trying the next Telephone number. All the numbers in the list will be tried before the "No Ack" message and System Input are triggered.

**CT001 Backup
Task: CT000**

This screen allows the Installer to specify a backup Comms Task, to be used if Contact ID via GSM Data fails.

Note that the Backup Comms Task will not be triggered when SMS Alarms via GSM Data fail or are not Acknowledged. To report SMS Alarm report failure, program the system to report Alarms on the "GSM Problems" System Input (C01:S30) via another Comms Task format.

Pressing HELP "0" *twice* will take you back to the common options when you are finished with the Special options screens.

Advanced Options

Advanced options are reached by pressing HELP, "9" *three times* at the Active/Idle screen, pressing HELP, "9" *twice* from any common options screen or HELP, "9" from any common options screen.

**CT001 FE2000
Version: 0000**

This screen allows the Installer to inspect the version number of the FE2000 GSM Modem. V3.5 to V4 only.

This screen is not available in V4.5 or later.

Pressing HELP "0" *three times* will take you back to the common options when you are finished with the Advanced options screen.

Starting the Comms Task**CT001 Idle ->
GSM**

To start the Comms Task, simply press the "9" key.

**CT001 Active ->
GSM**

The display will change to that of the screen on the left.

The GSM Modem is now operational using CT001. To stop the GSM Modem at any time, simply go to the above screen and press the "9" key to toggle the Comms Task back to idle.

Defaults

In V3 or later, Comms Task 1 (CT001) is defaulted to "PC Direct" format on Port 1 at 9600 Baud.

System Inputs

The GSM Comms Task manipulates the following system inputs:

Input	Alarms when	Restores when
UART Problem C01:S13 to 16.	3 consecutive communications with the FE2000 have failed.	The GSM Modem is operational and a successful poll has been received.
Comms Fail C01:S21	A backup task has failed OR a backup task has failed to be triggered.	After successful transmission of CID data via GSM.
Comms Backup C01:S20	Failure to send CID strings after maximum attempts OR GSM not registered and there is CID alarm data to send.	After successful transmission of CID data via GSM.

“SpreadNet” Comms Task Format

The Model 3000 / Access 4000 can be connected directly to a C&K SpreadNet receiver via a simple three wire serial interface from a UART port.

This allows all zone information from C&K SpreadNet transmitters to be interpreted as Model 3000 / Access 4000 zones. The SpreadNet system is viewed by the 3000/4000 as a **virtual** LAN Module called a Wireless Network Module (Nxx).

(Known as a SpreadNet Module from V2 to V3.5x)

Each group of 16 zones is allocated a virtual Wireless Network Module number and can share 4 System Inputs. There can be a maximum of 13 of these virtual Wireless Network Modules, allowing up to 208 SpreadNet transmitters to be individually monitored (13x16=208 Zones).

The following events can be actioned via inputs allocated to areas:

- Each transmitter “zone” (Nxx:Z01 to Nxx:Z16) can report seal, alarm or tamper individually.
- Separate Low Battery system alarm for each group of 16 transmitters.
- Separate No Poll system alarm for each group of 16 transmitters

Optional review of the following items can aid in debugging:

- Review of individual transmitter no poll timeouts.
- Review of individual transmitter low battery.
- Review of individual transmitter signal and noise levels.
- Review of communication problems with SpreadNet receiver.

All zone transmitters can be named continuing the Model 3000/4000 tradition of “user friendly” operation.

Zone Mapping

Each Wireless Network Module handles 16 SpreadNet transmitters and uses the prefix “N”. The SpreadNet Device # corresponds to a Wireless Network module number. e.g. A SpreadNet transmitter programmed to device #3, zone #12 would be referred to as “N03:Z12” within the 3000/4000 system. These inputs can now be used in any context where 3000/4000 inputs can be specified such as Areas, Function Zones etc.

There are 4 System Inputs per module:

S01	Timeout	This input is put into alarm whenever any one of the 16 zone transmitters for this module fails to report in the nominated time. The input will only be re-sealed at the low priority time check (every 40 minutes) if all modules have reported in, or by re-starting the Comms Task.
S02	Low Battery	This input is put into alarm whenever any one of the 16 zone transmitters for this module reports a low battery condition. The input can only be re-sealed by restarting the Comms Task.
S03	Spare	Spare for future development. Set to “n”.
S04	Spare	Spare for future development. Set to “n”.

Some communication formats are unable to report individual SpreadNet Zones or are limited as to what they can report on each Zone. See the Tables section at the rear of this manual for Zone mapping details.

Poll Times

The Model 3000/4000 system allows either 30 second or 300 second polls to be programmed for each C&K SpreadNet transmitter. The high priority flag is set in Comms Task programming for any module that is set to 30 second polling. Every 4 minutes the 3000/4000 system will check that all high priority modules have reported in the last 4 minute period. Similarly, low priority modules are checked every 40 minutes. If a module has not reported in, the "Timeout" system input is set to the alarm condition for that virtual module containing 16 zones.

SpreadNet Options

CT001 Idle ->
SpreadNet

Options are reached by pressing HELP, "9" at the Active/Idle screen. Options are divided into common options and less common or Special options. For the SpreadNet Comms Task, both the Common and Special options will have to be programmed.

Special options are reached by pressing HELP, "9" *twice* at the Active/Idle screen.

CT001 Port ->
to use: 0

This screen allows the Installer to define the UART Port to which the SpreadNet Receiver will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT001 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the SpreadNet receiver. The Baud Rate is selected by scrolling through the available options using the right arrow key. **A setting of 9600 Baud is mandatory for SpreadNet.**

See "Comms Task Baud Rates" in Comms Task Programming [MENU 7,3,1] for further details.

SpreadNet - Special Options

Special options are reached by pressing HELP, "9" *twice* at the Active/Idle screen or by pressing HELP, "9" from any common options screen. HELP "0" will take you back to the common options when special options is complete.

CT001 Property
Code : 00000

This screen sets the Property Code to be used for this SpreadNet installation. It may be set from 0001 to 4048. See the C&K SpreadNet literature for more information. If the Property Code is set to 0, transmitters will be received regardless of their programmed Property Code.

CT001 Channel
No : 0

This screen sets the Channel Number to be used for this site. It may be set to 01 or 02. See C&K SpreadNet literature for more information.

<div>CT001 LTEC.... Opts -> nnnnnnnnn</div>		This screen allows review options to be selected:
L	Levels	This option allows all transmitter activity to be saved to review, including transmitter signal and noise level figures.
T	Timeouts	Timeouts allows all transmitters which exceed the poll timeout to be saved to review to allow individual transmitter identification.
E	Errors	This option allows all error attempts with the receiver to be saved to review.
C	Changes	This option allows transmitter activity to only be saved when a change in input status has occurred.
.	Spare	Spare for future development. Set to "n".

CT001	12345678	These screens allow the Installer to specify which transmitters will be checked to ensure that a poll has occurred within the correct time.
N01Poll	nnnnnnnnn	

CT001	12345678	These screens allow the Installer to nominate from which transmitters a poll will be expected at the high priority rate of once every 4 minutes. If transmitters are not nominated as high priority, they will be checked every 40 minutes.
N01High	nnnnnnnnn	
CT001	90123456	
N01High	nnnnnnnnn	
CT001	12345678	
N13High	nnnnnnnnn	
CT001	90123456	
N13High	nnnnnnnnn	

Diagnostics

CT001 ..R.
Status -> nnnn

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare	Spare for future development.
R	Retry	A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.
.	Spare	Spare for future development.
.	Spare	<p>Spare for future development.</p> <p>The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate.</p>

Multiple Receivers

Although multiple receivers may be connected, only 13 groups of 16 Zones may ever be received. If multiple receivers are used, transmitters must be specific to one receiver only. If a transmitter reports to multiple receivers, multiple activations will occur for every transmission and a comms fail will be generated if the transmitter goes out of range of any one receiver.

eg. A separate property code must be used for each receiver and the transmitter must be programmed accordingly.

"4+2 Pulse" Comms Task Format

The 4+2 Pulse format transmits 4 client code and 2 alarm digits to a Central Station using bursts of single frequency. Either 1800Hz or 1900Hz data tones can be used with either 1400Hz or 2300Hz acknowledge tones. Two speeds are available, 20pps or 40pps. Checksum or two round verification may be also specified and Hex compatibility is an option.

The two alarm digits used to report events are normally arranged so that the 1st digit represents the type of event (eg. open, close, alarm, restore etc.) and the 2nd digit represents the event detail (eg. user, zone number etc.). The digits allowed are the digits 0 to 9. (0 is actually sent as 10 pulses). If the Central Station can accept Hex digits, the Hex digits A, B, C, D, E, F are also allowed, with "A" being interpreted as "0". This provides 15 event codes (1st digit) and 15 event details (2nd digit) for a Hex compatible receiver.

Programming screens are very similar to those of the Contact ID format, with the addition of 2 extra screens.

4+2 Pulse Options

Options are reached by pressing HELP, "9" at the Active / Idle screen. Options are divided into common options and less common or Special options. Usually only the common options need to be programmed.

Special options are reached by pressing HELP, "9" twice at the Active / Idle screen.

**CT001 Client
Code: 0000**

This screen sets the client code to be used for this Comms Task. The client code is programmable in decimal from 0001 to 9999. (Client codes of 0000 and 9999 should be avoided). If the "Multiple Area Client Code" is set, it is possible for a different client code to be used.

**CT001 PABX No.->
None**

These screens allow the installer to define an optional PABX access number. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number programming.

**CT001 PABX No.->
TN000**

**CT001 1st No.->
None**

These screens allow the installer to define the main Telephone Number to be used to contact the Central Station. Attempts will begin with the 1st number which **must** be present.

**CT001 2nd No.->
None**

If subsequent attempts are needed with different telephone numbers, numbers are tried in the order 2nd, 3rd, 1st and so on. If a number is not present, it is skipped and the next number in the above sequence is tried. Telephone Numbers are chosen from a pre-programmed list of Telephone Numbers, selected alphabetically by name or by number. See Telephone Number Programming.

**CT001 Dial PpDFTM.6
Options-> nnnnnnnn**

This screen sets various 4+2 Pulse options:

P	Pulse Dial (Tel)	Selects Pulse ("decadic") dial when dialling the main Telephone Number.
p	Pulse Dial (PABX)	Selects Pulse ("decadic") dial when dialling the PABX phone number if present.
D	Dumb Dialling	Selects Dumb dialling. If "n" then Smart dialling is selected (default). <i>See "Attempting Dialer Connections" at the end of this chapter.</i>
F	Forces 300 Baud	Forces all communications to 300 Baud instead of the default 1200 Baud. This need only be set if there are communication difficulties at 1200 Baud. (Relevant to IRfast format only).
T	Test Mode	This enables Test Mode which causes changes to the dial sequence to suit the Victorian Schools Tester. These changes are: -Do not dial the Telephone Number -Do not wait for initial handshake -Do not require an acknowledgement -Shorten inter-round time from 500ms to 300ms
M	Maximum Count	This enables the Maximum Count option. This option allows the maximum call time in 4+2 Pulse to be based on valid acknowledgements received, rather than time. If this option is set, the maximum call time is based upon the number of packets sent (1 to 255) programmed in the "Online Time" screen, under Special Options.
.	Spare	This option has been left spare for future development.
6	60 sec Redial	This option forces the Comms Task to wait 60 seconds between any redial attempt. This option must be set to comply with Singapore Telecom regulations.

**CT001 MLGPN...
Ropts -> nnnnnnnn**

This screen sets various reporting options:

M	Multiple Area Codes	If Multiple Area client codes are selected, whenever a report from an Area is performed (open/close/alarms/tampers/isolations/restores) the client code defined in Area Programming will be used if it is not "0000". If the Area Client code is "0000", the Comms Task client code will be used. If this option is set to "n" then the Comms Task client code will always be used. (See Area Programming for more details of this application)
L	Look Ahead	Normally all reportable events will be sent in the order that they occur; one at a time until no more reports are required. The Comms Task will ensure the order will not alter, even if the dialer takes a long time to get through to the Central Station or if reports are being generated faster than they can be sent. If this option is set to "Y", Look Ahead operation is selected. With Look Ahead selected, a sequence of multi-breaks on a single Zone/Input will be ignored if a restore report has already been sent for that Zone/Input and there are new alarms from a different Zone/Input that have not been sent yet. Open/Close reports do not follow this logic and are always reported. This option is useful to track intruder movement through a larger installation and ignore multi-breaking detectors.

G **General O/C** This option selects general open and close reporting. Whenever **all** Areas are turned ON a general Area close is reported. As soon as the **first** Area is turned OFF, a general Area open is reported.

In Area programming, some Areas can be nominated as "Not General Area" and are ignored in the general Area calculation. Open/Close will not be reported on these Areas in any Comms Task with this "General Open/Close" option set to YES. Another Comms Task with this option set to NO may be used to allow these Areas to trigger individual Open/Close reports. See Area Programming "Not General Area" option for details.

P **Prevents Restores** This option prevents restores being reported via this Comms Task.

N **No Area Still Open** In Area programming, it is possible to enable reporting of "Area Still Open" and "Area 24Hour Offs". Not all reporting formats can handle these reports. Setting this option to "Y" will disable these reports for this Comms Task. Both of these reports are sent without any loss of information in IRfast format.

CT001 Area List Filter: AL002

This screen allows an **optional** Area List filter to be defined for this Comms Task. If a non-zero Area List is chosen, only information from Areas in the specified Area List will be sent using this Comms Task.

CT001 EOA..... Efilt-> nnnnnnnn

The "Extra Filter" screen option allows a Comms Task to only respond to certain types of events.

E **Extra Filter** This option enables Extra Filter options. If left at "n", no extra filtering is used. ie. normal operation.

O **Opens/Closes** This option enables Opens/Closes reports to be sent via this Comms Task.

A **Alarms** This option allows Alarms/Tampers/Isolations to be sent via this Comms Task.

. **Spare** Spare options for future filters. Leave set to "n".

4+2 Pulse - Specific Options

These options are reached by pressing HELP, "9" twice at the Active/Idle screen, or by pressing HELP, "9" from any common options screen. HELP, "0" will take you back to the common options when programming of special options is complete.

CT001 Open/Close Codes: 00

This screen allows the 1st alarm digit to be defined for opening events and separately for closing events. On the programming screen the 1st digit is the one that will be used for openings and the 2nd digit is the one that will be used for closings.

For example, if this screen is set to "56", openings will be reported as "5X" and closings as "6X", where "X" represents the event detail which, in this case, means the User who turned on/off the area.

See the section on mapping at the end of this section.

CT001 214HC..B Format->nnnnnnnn

This screen allows the Installer to set some miscellaneous options. These options allow the Comms Task to be configured for compatibility with most proprietary pulse formats.

NOTE: The fastest operation is achieved at 40pps with Checksum verification. More unique events can be sent with a hex compatible format.

2	2300Hz Ack Tones	Normally 14400Hz acknowledge tones are used. This option allows 2300Hz acknowledge tones to be used instead.
1	1900Hz Data Tones	Normally 1800Hz data tones are used. This option allows 1900Hz data tones to be used.
4	40 Pps	Normally the reporting speed is 20 pulses per second. This option allows 40 pulses per second to be used.
H	Hex Compatible	All pulse formats can use the digits 0 to 9. Selecting this option allows the Hex digits A, B, C, D, E, F to also be used. ("A" is the same as "0")
C	Checksum	Normally the event is sent twice for dual round verification. This option allows a single checksum digit to be sent for verification.
.	Spare	Spare for future development. Leave set to "n".
B	Backup Task	Setting this option causes this Comms Task to act as a backup Comms Task to another task.

4+2 Pulse - Special Options

Special options are reached by pressing HELP, "9" three times at the Active/Idle screen, by pressing HELP, "9" twice from any common options screen or pressing HELP, "9" from any specific options screen. Pressing HELP, "0" will take you back to the specific options and pressing HELP "0" twice will take you back to the common options screen when programming of special options is complete.

CT001 Maximum Attempts: 000

This screen sets the maximum dial attempts this task will use to attempt to contact the Central Station. If left at zero then the default of 8 attempts will be used. Telecommunication regulatory authorities may limit this number. (In Australia, Austel specify a maximum of 10 attempts).

CT001 Backup Attempts: 000

This screen sets the number of dial attempts before the backup input will be triggered (C01:S20). If left at 000 the default value of 4 will be used.

CT001 Backup Task: CT000

This screen allows an optional backup task to be specified that will be triggered if this Comms Task fails to communicate within its maximum attempts. Leaving the task at CT000 specifies no backup task will be triggered.

CT001 Seize Aux C01:X08

This screen allows an Auxiliary output to be specified. This Auxiliary will turn on whenever the dialer line is seized and will turn off whenever the dialer line is released.

CT001 Pass Aux C01:X08

This screen allows the installer to specify an Auxiliary output to turn on whenever the dialer successfully sends a report to the Central Station. It must be turned off by some other mechanism such as a timer.

**CT001 PABX Dial
Wait: 000/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the PABX number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Main Dial
Wait: 000/10 sec**

This screen sets the time the task will wait to sense dial-tone before dialling the Main number. The time is programmable from 1/10 sec to 255/10 sec (25.5 seconds). If this option is left at 000/10 then the default time of 3 seconds will be used.

**CT001 Handshake
Wait: 000**

This screen sets the time the task will wait for an initial handshake after dialling the Central Station. The time is programmable from 1 second to 255 seconds. If this option is left at 000 then the default time of 30 seconds will be used.

**CT001 Max.Online
Time: 000 min**

This screen sets the maximum time the task will stay on-line before hanging up and re-dialling. The time is programmable from 1 minute to 255 minutes. If this option is left at 000 then the default time of 10 minutes will be used.

**CT001 Line Test
Count: 000**

This screen sets the parameters associated with line testing and should be left at 000 unless advised by the manufacturer.

Introduction to Dialer Formats

When activated, a Comms Task set to a Dialer format (Contact ID, IRfast, or SIA) will continually look for any reports to be sent. When a reportable event is found, the dialer line will be used to attempt a connection to the Central Station. If the dialer line is being used, the attempt will be deferred until whatever is using the dialer line is finished. When finished, this Comms Task will “take-over” the dialer line and will not release it until it is finished. The connection attempt works in one of two ways:

- ◆ **Smart Dial** This is the default setting. The task will monitor the line for line faults, dial-tone, busy etc. and make dialling decisions based on results of attempts to connect to the Central Station as quickly as possible. All activity will be recorded to review.
- ◆ **Dumb Dial** This setting does not make “smart” decisions based on sensed tones, although all tones sensed and dialer progress are recorded to review.

The operation of these two modes is described in more detail in the section headed “Attempting Dialer Connection”.

Once connected, the task will report all alarms until either there are no more alarms, or the on-line timer expires (default is 10 minutes). Alternatively, if the “Look Ahead” option is set, old alarms will be skipped in favour of new alarms.

Attempting Dialer Connections

Most Comms Tasks formats which need to dial a number to report information follow the logic below. Either smart dial or dumb dial can be selected on a per Comms Task basis.

Smart Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait till it stops ringing.
2. Test Line for DC voltage. If no line then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
3. If got PABX number then loop line and wait for dial tone. If get dial tone then begin dialling. If get busy then unloop line, wait variable time then try again up to maximum attempts. If don't get dial tone then dial PABX number anyway.
4. Now wait for main dial tone. If get dial tone then begin dialling. If get busy or don't decode dial-tone then unloop line, wait variable time then try again to same Telephone Number up to maximum attempts.
5. Wait for Central Station required handshake for this format. If get dial tone or busy then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get time out then unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake then start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors then unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

Dumb Dial

1. Seize Line and wait 3 seconds to see if phone is ringing. If phone is ringing wait until it stops ringing.
2. Test Line for DC voltage. If no line, save review message and continue.
3. If got PABX number then loop line and wait for dial tone. If get dial tone, begin dialling. If get busy, save review message and continue. If do not get dial tone, dial PABX number anyway.
4. Wait for main dial tone. If get dial tone, begin dialling. If get time-out or any other tone, save to review and continue.
5. Wait for Central Station required handshake for this format. If get time-out, unloop line, wait variable time then try again to a new Telephone Number up to maximum attempts. If get required handshake, start on-line timer.
6. Proceed with communications for this format. If redial is required due to errors, unloop line, wait minimum time then try again to the same Telephone Number up to maximum attempts.

NOTE: Many telephone lines in Australia and New Zealand have a Message Bank or similar service connected. The differential dial tones used as indicators for such services can impede communication by the panel.

To avoid possible communication problems either disable the connected service or set the (D)umb Dialling option in Comms Task Programming.

Mapping

A flexible mapping scheme has been devised. The 3000/4000 system follows the basic philosophy of the 1st digit representing the type of event and the 2nd digit representing the event detail.

Before selecting which digits to use for reports, the Installer must decide which reports will be sent. The Installer must ensure that, if a particular event type has not been catered for, the panel cannot generate an Xmit entry for this event type, thereby causing the wrong digit to be used in the report.

The client code is determined by Comms Task programming. However, if an Area Client Code is defined, it will be used instead.

Openings and Closings

The 1st digit for openings and closings is programmed in the Open/Close Codes screen. The 2nd digit represents the User or operation that operated the Area.

Entity that operated the Area

User manual open/close
Power on arm
TimeZone
Function Zone
IRfast Command
Calculated Auxiliary
Unidentified User
CommPass Command
DTMF Command
Timed On

2nd Digit in non Hex mode

Last digit of User code
0
0
0
0
0
0
0
0
0
0

2nd Digit in Hex mode *

Last digit of User code
B
C
D
F
E
B
F
F
B

* Requires Hex option to be set on option screen.

Alarms, Tamper, Isolates and Restores

The two report digits to be used for any particular event are determined from the "base" digits. The "base" digits are defined by the "4+2 Pulse Msg" option in the Process Group used to generate the Xmit entry. For example, if the Process Group "BURGLARY" has the 4+2 pulse message set to "28", then the "base" digits for any event with the Process Group "BURGLARY" will be "28".

For zones that have a programmable text description, the "base" digits determined by the Process Group can be optionally overridden by "base" digits programmed as part of the Zone description for that Zone only. If the text description contains a string in the form "<XY>" where XY are two Hex digits, then XY become the "base" digits for all events in this Zone.

For system alarms which have fixed text description, the “base” digits are always defined from the Process Group.

Having determined what the “base” digits are, the actual report digits to be used are determined by the type of event. The table below explains:

<u>Event with “base” digits “XY”</u>	<u>1st Report Digit</u>	<u>2nd Report Digit</u>
Alarm	X	Y
Restore	X+1	Y
Tamper	X+2	Y
Isolate	X+3	Y

For example, if the “base” digits were “28” :

- Alarms reported as “28”
- Restores reported as “38”
- Tamperers reported as “48”
- Isolates reported as “58”

Further Considerations

Having determined whether or not the format will use Hex digits (Hex gives greater flexibility), the programmer needs to decide which events are to be reported. For example, if a Process Group is programmed to send alarms, restores, tampers and isolates, 4 pairs of digits need be set aside for reports from that Process Group. (As per the previous table these would be 28, 38, 48 & 58.) Care must be taken to ensure that no other reports can inadvertently use the same digits.

If only alarms are to be reported, then ensure that:

- Process Group options are not programmed to send isolates, tampers or restores.
- The Comms Task has the (P)revent restore option set.

If no openings/closings are to be reported, ensure that:

- Area open/close report options are set to no.

NOTE:

You cannot send;

- An isolate without also mapping tampers and restores
- A tamper without also mapping a restore

By allowing individual Zones to have their own unique “base” digits, Zones can conveniently define unique 2nd digits when required. System Inputs are not quite as flexible, requiring different process groups if different 2nd digits are required for different system alarms.

“8 Pin” Comms Task Format

IMPORTANT NOTE: The 8 Pin Comms Task can only be used in Type 2 (CE) Control Module Hardware and V4.50 Firmware or later.

Introduction.

This communication format allows the 3000/Access 4000 system to provide alarm verification logic. This type of alarm reporting logic may be required by a Central Monitoring Station, particularly when Police Response is provided for Intruder Alarms.

This Comms task is primarily designed to work with an 8 Pin STU interface, but can also be used to apply verify logic on industry standard Contact ID and proprietary IRfast dialer communication formats.

Programming.

The 8 Pin comms task utilises 8 consecutive Auxiliaries which can control relays for the purpose of triggering the inputs on a remote STU.

Alternatively, the 8 Auxiliaries can be used in Calculated Auxiliary programs to trigger Zone Inputs. These Zones can then be used for reporting the verification logic outcomes via any of the Comms Task formats used for reporting alarms to a Central Monitoring Station. e.g. Contact ID or IRfast.

The Verify Logic for the 8 Pin Comms Task is applied to Zone Inputs according to the Comms, Pin Type and Verify Group options programmed in the Process Group assigned to the Zone. Verify logic will only apply when the Process Group is programmed to trigger comms events.

There are 8 Pin Output Types each of which has a defined function.

The Pins are defined as follows:

1	Fire	5	Medical
2	PA	6	System
3	Intruder	7	Verify
4	Open/Close	8	Plant

Pins 4 and 7 cannot be assigned via a Process Group as they are an automatic function of the 8 Pin Comms Task. If a different sequence is required for the 8 Pins, the Installer simply needs to alter the associated interface wiring, or system programming (e.g. Calculated Auxiliaries) accordingly.

When the 8 Pin Comms Task is set to Active, the state of the Pin Auxiliaries will be set to off. These Auxiliaries now belong to the 8 Pin Comms Task and cannot be manipulated or used by any other function. They can however be used to trigger other functions such as Calculated Auxiliaries. Where multi-Area systems require the use of individual STU's for additional PIN reporting or for individual Area reporting, multiple 8 Pin Comms Tasks may be programmed provided separate Auxiliaries are used and an Area List filter applied.

Connecting to a remote STU.

The normal or sealed state for a Pin is Auxiliary Off. When a Pin is triggered by an alarm or an Area close, the Auxiliary will turn on and the physical output will be switched to 0V. If a positive trigger output is required then a relay interface board should be fitted to the Auxiliaries, and the positive voltage switched via the relays. For STU's that require an external pull up resistor to keep the input high while inactive, a value of around 10K is recommended. Ensure that a common 0V (ground) connection is made between the STU and the Module that the Auxiliaries belong to, especially if the STU is powered by a separate power supply.

Operation.

The 8 Pin Comms Task will generate 1 Pin activation per arming period. When an alarm is generated and programmed to trigger a Pin, that Pin will not de-activate or turn off until the Area is turned off. For this reason Open & Close reports **MUST** be programmed to transmit for any Area that is to transmit alarms via the 8 Pin Comms Task.

If individual Open/Close reports are required, use any spare Pins on the STU and connect them to Auxiliaries that are programmed as Area close Auxiliaries. In this instance Pin 4 should not be connected and may be used as an alternative alarm.

If a General Open/Close report is required, set the 'G' option in the 8 Pin Comms Task to Yes. Any Pins activated while all Areas are closed will be reset when the first Area on the system is turned off. If a subsequent alarm is generated on any Pin, this Pin will remain active until all Area are armed and then the first Area disarm occurs. This means that Pins are only reset on Area Opening reports. If this is not desired then General Open/Close should not be used.

Verify Logic Programming and Operation.

In accordance with the UK ACPO requirements, verify logic can be applied to all inputs that are programmed to communicate an intruder alarm.

The verify logic only applies to Zones Inputs or System Inputs that are assigned a Process Group that has the Pin type set to 3-Intruder. All other Pin types will report immediately (if Comms options are selected) and will not have verify logic applied.

For the verify Pin to be triggered, the verify count must be met within the programmed verify period. The verify count will only be incremented by 1 for each Input.

i.e. Alarms on any individual Input will only cause the verify count to increment once within the verify period, regardless of the number of "hits" or "breaks" on that Input.

The verify logic is broken up into 16 individual groups. By programming a separate Process Group that will trigger Pin 3 for each Area, and selecting a different Verify Group in each of these Process Groups, it is possible to have 16 Areas all with their own verify logic that will not affect any of the other Areas. The number of Inputs that must alarm and in what period is governed by the values programmed within the 8 Pin Comms Task.

Example.

The 8 Pin Comms Task is programmed for a Verify Time of 30 minutes, and a Verify Count of 2.

Area 1 and 2 contain Inputs that are to report via the 8 Pin Comms Task.

All Inputs in Area 1 have Process Groups that have Verify group 1 assigned and Pin 3 - Intruder selected.

All Inputs in Area 2 have Process Groups that have Verify group 2 assigned and Pin 3 - Intruder selected.

An alarm in Area 1 will cause Pin 3 to be triggered. A subsequent alarm in Area 2 will not cause the Verify Pin to be triggered as Area 2 Inputs have a different Verify Group. Should another Input be triggered in either Area 1 or Area 2 within 30 minutes of the initial alarm in those Areas, then Pin 7 - Verify will be activated. Although there is only one Verify time and Verify Count defined in the 8 Pin Comms Task there is a separate timer and counter that will run for each Verify Group.

Because a Pin will only activate once per arming period, it is important that the keyholder be advised to attend and reset the alarm system as soon as possible. It is also recommended that where practical, a secondary Comms Task such as Contact ID or IRfast dialer be used to report individual activations, especially on multi-area systems where only one STU will be utilized to report all Area alarms.

CT002 Idle ->
8 Pin

Programming options are found by pressing HELP, “9” at this screen.

Program the 8 Pin options by pressing HELP, “9” from the “Port to Use” screen or return to the first 8 Pin screen by pressing HELP, “0” and toggle the Comms task On and Off by pressing the “9” Key.

CT002 GE.....
Sopts-> nnnnnnnn

This screen allows the Installer to select any special 8 Pin options required.

G General Open/Close

If set to Yes, the 8 Pin Comms Task will provide General Open/Close reporting. i.e. Will only report on First Area to Open and Last Area to Close.

E Extended Verify Time.

If set to Yes, the Verify Time programmed below will be multiplied by a factor of 10, allowing Verify Times of up to 42.5 minutes to be used.

CT002 Verify
Time: 000 sec

This screen sets the Verify Timer period for the Intruder Pin (Pin 3).
A value of 0 means that no timer will operate.
A value of 1 to 255 will provide a timer of 1 to 255 seconds, or 10 to 2550 seconds if the “E”xtended Verify Time option is selected above.

Verify Time examples:

Setting	E option = No	E option = Yes
30	30 Seconds	5 Minutes
60	60 Seconds	10 Minutes
120	2 Minutes	20 Minutes
180	3 Minutes	30 Minutes
240	4 Minutes	40 Minutes

CT002 Verify
Count: 000

This screen sets the number of alarms per Verify Group required to trigger the Verify Pin. (Pin 7)

CT002 Pin1 Aux
_ :X

This screen allows the Installer to specify the first Auxiliary to be used for the set of 8 Pin Auxiliaries.
The other Auxiliaries will be the next 7 Auxiliaries immediately following the specified Auxiliary. All Auxiliares must be on the same Module.
e.g. If the Pin 1 Aux is C01:X03, then the Pin Auxiliaries will be as follows:

1 Fire	C01:X03	5 Medical	C01:X07
2 PA	C01:X04	6 System	C01:X08
3 Intruder	C01:X05	7 Verify	C01:X09
4 Open/Close	C01:X06	8 Plant	C01:X10

CT002 Area List
Filter: AL000

This screen allows an Area List to be assigned to this Comms Task.
When assigned, only Inputs and Open Close reports that are associated with the Areas in the specified Area List will be reported via this Comms Task.

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be reset (cleared) when desired by pressing the OFF Key. The following table explains the flags:

- . Spare
- R** **R**etry
- . Spare
- . Spare

A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“C-Bus” Comms Task Format

Note: The C-Bus Comms Task can only be used in Type 2 (CE) Control Module Hardware and V4.00 Firmware or later.

This communication format allows the 3000/Access 4000 system to connect to a Clipsal C-Bus PC interface via an RS232 Serial connection.

IMPORTANT NOTES:

V4.5 Firmware or later:

The Control Module provides Automation (C-Bus) Auxiliaries as follows:

512k (4MBit):	Up to 64 depending on memory configuration chosen.
128k (1MBit):	Up to 16 depending on memory configuration chosen.
32k	NO Automation Auxiliaries provided.

V4 Firmware: The Control Module must be fitted with 512k (4MBit) Memory expansion which currently allows up to 64 C-Bus Auxiliaries to be defined, depending on the memory configuration chosen.

C-Bus Networks.

The C-Bus Comms Task is designed to share data with a single C-Bus Network, and is not designed to operate across C-Bus Network bridges.

Additional C-Bus products are available that may allow data to be sent and received across Network bridges. Contact Clipsal for more information.

The connection between the UART Port and C-Bus PC interface is made using the C-Bus Interface Cable, Part Number 993013.

Communications integrity is monitored by the 3000/Access 4000 system. Once communications is established, the system sends a “turn on monitor mode” command to the C-Bus PC interface once every minute to check that the interface is operational, and able to report network activity.

Any C-Bus network activity detected will cause any relevant programmed actions to be carried out. Any time a C-Bus command needs to be sent, the 3000/Access 4000 system will send it within 200mS.

In addition to the Comms Task, C-Bus Auxiliaries must also be programmed to establish the association between 3000/4000 Auxiliaries and C-Bus Group Addresses, and the operations required. See “*C-Bus Auxiliaries*”, *MENU*, 7, 5, 9.

C-Bus Auxiliaries can provide the following functions:-

1. Cause nominated C-Bus output devices to turn on, turn off, or ramp on/off to a specified level as defined 3000/Access 4000 Auxiliaries turn on or off.
2. Update the state of defined 3000/Access 4000 Auxiliaries as C-Bus functions turn C-Bus output devices on or off within the C-Bus network.
3. Save C-Bus activity to the 3000/Access 4000 Review Memory.
4. Allow two separate applications to be controlled simultaneously. e.g. Lighting and Heating.

CT002 Idle ->
CBus

Programming options are found by pressing HELP, "9" at this screen.

CT002 Port ->
to use: 1

This screen allows the Installer to define the UART Port which is to be connected to the C-Bus PC interface. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT002 Baud ->
Rate: 1200

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key. A setting of 1200 Baud must be used for C-Bus.
See "Comms Task Baud Rates" in Comms Task Programming [MENU 7,3,1]

Note: When the C-Bus Comms Task is started, it will attempt to communicate with the PC interface at the programmed Baud rate. If the Baud rate is not 1200 Baud, the '3000 will send a Baud rate shift command (to 1200 Baud) to the PC interface and re-program the Comms Task Baud rate to 1200 Baud.

Program the C-Bus options by pressing HELP, "9" from the "Port to Use" screen or return to the first C-Bus screen by pressing HELP, "0" and toggle the Comms task On and Off by pressing the "9" Key.
(C-Bus options are found by pressing HELP, "9" *twice* at the first C-Bus screen.)

CT002 PC Unit
Address: 000

This screen sets the C-Bus unit address for the C-Bus PC Interface unit. It is programmed in decimal digits from 000 to 254 and must be set to the same as the C-Bus PC Interface address.

CT002 App #1
00

This screen sets the primary application ID for the C-Bus system that the 3000/Access 4000 is communicating with. It is programmed in Hexadecimal characters and is normally set to \$38. (Lighting)

CT002 App #2
00

This screen sets a secondary application ID for the C-Bus system that the 3000/Access 4000 is communicating with. It is programmed in Hexadecimal characters. If a secondary application is not required, this screen is normally programmed to the same ID as Application #1.

CT002 CBus OK
Zone: C01:Z01

This screen allows any unused Zone Input in the 3000/Access 4000 system to be used to indicate changes in the status of the C-Bus communications.
This Zone Input can then be programmed in the same manner as a normal Zone Input to generate the type of message and/or alarm required.
Seal = C-Bus communications is considered operational.
Alarm = C-Bus communications is considered failed.
If a Zone Input is assigned, the "Ignore Physical Zone" option must be set to Yes in the programming options for that Zone Input.
See "Input programming". MENU 7, 0.

CT002 R.....
Opts -> nnnnnnnn

This screen allows various C-Bus options to be selected:

R Review

The Review option causes all C-Bus activity to be logged to the Review memory. This includes all On, Off and Ramp commands only. This option must be set to Yes if the “Alarm Feedback” option in C-Bus Auxiliaries programming (MENU, 7, 5, 9) is set to Yes.

CT001 ..R.
Status -> nnnn

Diagnostics
Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be reset (cleared) when desired by pressing the OFF Key. The following table explains the flags:

- . Spare
- R Retry
- . Spare
- . Spare

A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer’s Service Technician.

"Inovonics" Comms Task Format

The Model 3000 / Access 4000 can be connected to the Inovonics Wireless receivers, FA400 and MF4232 via the IR400 Inovonics interface board. Part No: 995075.

Note: The Inovonics Comms Task can only be used in Type 2 (CE) Control Module Hardware and V4.50 Firmware or later.

The IR400 is connected between the Serial Port of the Inovonics Receivers and a UART Port on the Model 3000/ Access 4000 Control Module. Ensure that the UART Expander board fitted to the Control Module has a suitable number of Ports to provide connection to the IR400 Inovonics interface as well as any other devices required. e.g. PC, Securitel STU, GSM modem, Printer, etc. On sites where the range offered by the Wireless transmitters is not adequate, Inovonics offers Repeaters to extend the range.

The Inovonics Receiver and IR400 interface are both powered by a 12V supply that is best sourced from a separate battery-backed 12V Power Supply giving longer battery backup times and a high level of Power Supply integrity.

(The units may be powered from the Control Module "DET+" supply, however, if a short in the detector cabling, etc, causes the "DET" fuse to blow, power to the units will be lost)

This interface allows all zone information from Inovonics wireless transmitters to be interpreted as Model 3000 / Access 4000 Zone Inputs. The Inovonics system is viewed by the 3000/4000 as a **virtual** LAN Module called a Wireless Network Module (Nxx). Each group of 16 zones is allocated a virtual Wireless Network Module number and can share 4 System Inputs. There can be a maximum of 13 of these virtual Wireless Network Modules, allowing up to 208 Inovonics wireless transmitters to be individually monitored (13x16=208 Zone Inputs).

The following events can be actioned via inputs allocated to areas:

- Each transmitter "zone" (Nxx:Z01 to Nxx:Z16) can report seal, alarm or tamper individually.
- Separate Low Battery system alarm for each group of 16 transmitters.
- Separate No Poll system alarm for each group of 16 transmitters.
- The IR400 status can be monitored via an assigned Zone Input.
- The receiver status can be monitored via an assigned Zone Input.

Optional review of the following items can aid in commissioning and trouble-shooting:

- Review of individual transmitter "no poll" timeouts.
- Review of individual transmitter low battery.
- Review of individual transmitter signal and noise levels.
- Review of communication problems with the receiver, or IR400 interface board.

All zone transmitters can be named, continuing the Model 3000/4000 tradition of "user friendly" operation.

Zone Mapping

NOTE: Inovonics FA series transmitters have programmable Transmitter ID, Application ID and System ID parameters that are used by the Concept panel. Inovonics offers a number of options for programming these parameters into their transmitters, the values **must be known** to use the transmitters with the Model 3000/Access 4000.

In addition, the Inovonics MF series transmitters, must be registered into the Model 3000/Access 4000, this process is explained in Zone Registration section of this manual.

A Wireless Network Module handles 16 Inovonics transmitters and uses the prefix "N". The Inovonics Transmitter ID is two hexadecimal digits where:

-The 1st digit corresponds to a Wireless Network module no., with 0 mapping to Module 1, 1 mapping to Module 2, etc.

-The 2nd digit corresponds to the Zone Input no., with 0 mapping to Zone 1, 1 mapping to Zone 2, etc.

i.e. The mapping corresponds one-to-one with an offset of 1.

For example;

-An Inovonics Transmitter ID of \$34 would map to Module 4, Zone 5. i.e. "N04:Z05" within the 3000/4000 system.

-An Inovonics Transmitter ID of \$85 would map to Module 9, Zone 6. i.e. "N09:Z06" within the 3000/4000 system.

-An Inovonics Transmitter ID of \$CA would map to Module 13, Zone 11. i.e. "N13:Z11", within the 3000/4000 system.

These inputs can now be used in any context where 3000/4000 inputs can be specified such as Areas, Function zones, etc, and are programmed in exactly the same manner as normal physical Zone Inputs, thereby offering all the usual functionality offered by the system.

There are 4 System Inputs per Module:

S01 Timeout

This input is put into alarm whenever any one of the 16 zone transmitters for this module fails to report in the nominated poll time. The input will only be re-sealed at the low priority time check if all modules have reported in, or by re-starting the Comms Task.

(The details of the actual transmitter with the timeout condition is saved to Review if the "T"imeout option is set to Yes in the Review options)

Poll Times. Two poll rates, a high priority rate and a low priority rate can be programmed for the Inovonics Comms Task. The poll rates determine when the system will check that the transmitters have reported in. All transmitters are checked when the low priority poll timer expires. Only nominated "high priority" transmitters are checked when the high priority poll timer expires.

Note: Poll times should be set in accordance with the Inovonics equipment manufacturers recommendations.

S02 Low Battery

This input is put into alarm whenever any one of the 16 zone transmitters for this module reports a low battery condition. The input can only be re-sealed by restarting the Comms Task. (The details of the actual transmitter with the low battery condition is saved to Review)

S03 Spare

Spare for future development. Set to "n".

S04 Spare

Spare for future development. Set to "n".

Important Note: Some communication formats are unable to report individual Inovonics Zones or are limited as to what they can report on each Zone. See the Tables section at the rear of this manual for Zone mapping details.

Inovonics Options

CT002 Idle ->
Inovonics

Options are reached by pressing HELP, "9" at the Active/Idle screen. Options are divided into common options and less common or Special options. For the Inovonics Comms Task, both Common and Special options will need to be programmed.

Special options are reached by pressing HELP, "9" *twice* at the Active/Idle screen.

CT002 Port ->
to use: 1

This screen allows the Installer to define the UART Port to which the IR400 interface will be connected. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT002 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate with the Inovonics receiver. The Baud Rate is selected by scrolling through the available options using the right arrow key. **A setting of 9600 Baud is mandatory for Inovonics.**

See "Comms Task Baud Rates" in Comms Task Programming [MENU 7,3,1] for further details.

Inovonics - Special Options

Special options are reached by pressing HELP, “9” *twice* at the Active/Idle screen or by pressing HELP, “9” from any common options screen. HELP “0” will take you back to the common options when special options is complete.

CT002 App ID
000

This screen sets the **Application ID** to be used for this Inovonics installation. It may be set from 000 to 255. See the Inovonics literature for more information.
(Note that changes may take up to 1 minute to be recognised by the FA-400)

CT002 Sys ID
000

This screen sets the **System ID** to be used for this installation. It may be set from 000 to 255. See Inovonics literature for more information.

CT002 High Poll
Rate: 000min

This screen sets the High Priority Poll Rate. This is the rate at which all High Priority transmitters will be checked to see that they have reported in.
The rate is programmable from 1 to 255 minutes in 1 minute increments. Note values below 120 will increase the signal traffic significantly.
See Inovonics literature for more information regarding poll rates.

CT002 Low Poll
000 x HighPoll

This screen sets the Low Priority Poll Rate. This is the rate at which all Low Priority transmitters will be checked to see that they have reported in.
The rate is programmable from 1 to 255 as a multiple of the High Poll rate.
e.g. If the High Poll rate is set to 120 minutes, and the Low Poll count is 4, Low Priority transmitters will be polled every 8 hours. (120 x 4 = 480 minutes)
See Inovonics literature for more information regarding poll rates.

CT002 IR400 OK
Zone: C01:Z01

These screens allow any unused Zone Inputs in the 3000/Access 4000 system to be used to indicate changes in the status of the Inovonics communications.
-The IR400 OK Zone will go into alarm if communications to the IR400 fails and will restore when communications is re-established.

CT002 FA400 OK
Zone: C01:Z01

-The FA400 OK Zone will go into alarm if no supervisory messages are received from a Receiver for 90 seconds and will restore when a supervisory poll is received.

These Zone Inputs can then be programmed in the same manner as normal Zone Inputs to generate the type of messages and/or alarms required.

If a Zone Input is assigned, the “T”gnore Physical Zone option must be set to Yes in the programming options for that Zone Input.
See “Input programming”. MENU 7, 0.

CT002 ACTM....
Opts -> nnnnnnnn

This screen allows Review options to be selected for this Comms Task:

- | | | |
|---|--------------|--|
| A | Always allow | This option allows all transmitter activity to be saved to Review, including transmitter signal and noise level figures. |
| C | Changes | This option allows transmitter activity to only be saved when a change in input status has occurred. |
| T | Timeouts | Timeouts allows all transmitters which exceed the poll timeout to be saved to review to allow individual transmitter identification. |
| M | Mismatch | This option allows any transmitter activity with an “Application ID” &/or “System ID” mismatch to be saved to Review. |
| . | Spare | Spare for future development. Set to “n”. |

CT001 12345678
N01Poll nnnnnnnnn

These screens allow the Installer to specify which transmitters will be checked to ensure that a poll has occurred within the correct time.

CT001 90123456
N01Poll nnnnnnnnn

CT001 12345678
N13Poll nnnnnnnnn

CT001 90123456
N13Poll nnnnnnnnn

CT001 12345678
N01High nnnnnnnnn

These screens allow the Installer to nominate from which transmitters a poll will be expected at the high priority rate as programmed earlier. If transmitters are not nominated as high priority, they will be checked at the low poll rate.

CT001 90123456
N01High nnnnnnnnn

CT001 12345678
N13High nnnnnnnnn

CT001 90123456
N13High nnnnnnnnn

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

- RRetry
- .Spare

A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

Spare for future development.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate.

Multiple Receivers

Although multiple receivers may be connected, only 13 groups of 16 Zones may ever be received. If multiple receivers are used, transmitters must be specific to one receiver only. If a transmitter reports to multiple receivers, multiple activations will occur for every transmission and a comms fail will be generated if the transmitter goes out of range of any one receiver.

e.g. A separate “Application ID” and “System ID” must be used for each receiver and the transmitter must be programmed accordingly.

“PosData DVR” Comms Task Format

IMPORTANT NOTE: The PosData DVR Comms Task can only be used in Type 2 (CE) Control Module Hardware and V4.50 Firmware or later.

Introduction

This communication format allows the 3000/4000 system to communicate with a PosData 4 Channel Model BX DVR (Digital Video Recorder) via an RS232 Serial connection.

This interface then provides DVR Control from a standard 3000/4000 LCD Terminal in conjunction with a display monitor connected to the DVR.

Operation.

By selecting the specified MENU options while logged off, the LCD Terminal can be used to perform the following operations:

**** DVR ACCESS ****
MENU=Change Mode

MENU, 4 selects User Access Mode or User Search Mode.
The MENU key is used to toggle the selection between the two modes.

**** DVR SEARCH ****
MENU=Change Mode

When the required mode is displayed, press the <OFF> key. The DVR monitor will prompt for your User ID. “Enter User ID:”
When your User ID is entered, the monitor will prompt for your password. “Enter Password: _ _ _ _ _”
Note that this is your PosData DVR User ID and password, not your Model 3000/Access 4000 User number and PIN Code.

The User Access or Search Mode can now be used according to the key functions shown in the table below.

**** DVR ADMIN ****

MENU, 5 selects Admin Mode.

The monitor will prompt for your password. “Enter Password: _ _ _ _ _”
Note that this is your PosData DVR Admin password, not your Model 3000/Access 4000 PIN Code.

The Admin Mode can now be used according to the key functions shown in the table below.

Key	Access Mode	Search Mode	Admin Mode
<	Split	Play Reverse	Left
^	Record	Up	Up
v	Status	Down	Down
>	-	Play	Right
HELP	Context sensitive help	Context sensitive help	Context sensitive help
MENU	Select mode	Select mode	-
END	Exit	Exit	Exit
OK	Select	Select	Select
OFF	Escape	Escape	Escape
ON	Search	Search	Stop
Digit keys 0-9	ID / Password entry	See below	Password / Data entry
1		Fast Play Reverse	
2		Stop	
3		Fast Play	
4		Frame Back	
6		Frame Forward	

CT002 Idle ->
PosData DVR

Programming options are found by pressing HELP, "9" at this screen.

CT002 Port ->
to use: 1

This screen allows the Installer to define the UART Port which is to be connected to the PosData DVR. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT002 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key.

A setting of 9600 Baud must be used for PosData DVR.

See "Comms Task Baud Rates" in Comms Task Programming [MENU 7,3,1]

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

.	Spare
R	Retry
.	Spare
.	Spare

A "Y" under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The "R" flag may be monitored after communications via this port. In the event that the system places a "Y" flag under the "R", the Status screen should be reset and monitored further. Should a "Y" flag appear under the "R" with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

“Dynalite” Comms Task Format

Note: The Dynalite Comms Task can only be used in Type 2 (CE) Control Module Hardware and V4.50 Firmware or later.

This communication format allows the 3000/4000 system to connect to a Dynalite Lighting Controller via an RS232 Serial connection.

IMPORTANT NOTE:
V4.5 Firmware or later:
The Control Module provides Automation (Dynalite) Auxiliaries as follows:
512k (4MBit): Up to 64 depending on memory configuration chosen.
128k (1MBit): Up to 16 depending on memory configuration chosen.
32k NO Automation Auxiliaries provided.

The connection between the UART Port and the Dynalite Lighting Controller is made using the Model 3000/Access 4000 Modem Cable (P/N: 993027) and an RS232 - RS485 Converter.
The Rx, Tx, RTS and Gnd connections are utilized in the Modem Cable. (RTS is used to control DE on the RS485)

Any time a Dynalite command needs to be sent, the 3000/Access 4000 system will send it within 200mS.

In addition to the Comms Task, Dynalite Auxiliaries must also be programmed to establish the association between 3000/4000 Auxiliaries and Dynalite Areas, and the operations required. See “Dynalite Auxiliaries”, MENU, 7, 5, 9,2.

A Dynalite Auxiliary provides for a nominated Dynalite Area to turn on or off over a timed period as defined 3000/Access 4000 Auxiliaries turn on or off.

CT002 Idle ->
Dynalite

Programming options are found by pressing HELP, “9” at this screen.

CT002 Port ->
to use: 1

This screen allows the Installer to define the UART Port which is to be connected to the Dynalite interface. Depending on the version of UART Expander fitted to the Control Module, a Port number from 1 to 4 may be used. The Port number is selected by scrolling through the available options using the right arrow key.

CT002 Baud ->
Rate: 9600

This screen allows selection of the Baud Rate (Data speed) at which the UART will communicate. The Baud Rate is selected by scrolling through the available options using the right arrow key.
A setting of 9600 Baud must be used for Dynalite.
See “Comms Task Baud Rates” in Comms Task Programming [MENU 7,3,1]

CT001 ..R.
Status -> nnnn

Diagnostics

Pressing the ON Key whilst the Active/Idle screen is displayed will display the UART Port status screen. This screen can be cleared when desired by pressing the OFF Key. The following table explains the flags:

- . Spare
- R** **Retry**
- . Spare
- . Spare

A “Y” under this flag means the receive fifo (16 bytes) has overflowed and at least one character has been lost. This will normally cause a retry of some kind.

The “R” flag may be monitored after communications via this port. In the event that the system places a “Y” flag under the “R”, the Status screen should be reset and monitored further. Should a “Y” flag appear under the “R” with some regularity, a potential cause would be the baud rate at which the port is attempting to communicate. In such a case the Installer should reduce the baud rate and monitor the effect via the status screen.

In the event that lower baud rates do not solve the problem, assistance should be sought from the manufacturer's Service Technician.

Request Service

MENU 8, 1

This menu option allows a customer to have the ability to trigger a message to the Monitoring station to Request a Service call. (V3.0 or later only)

Important Note: You will need to check with the Monitoring Station whether or not this service is provided.

The following programming steps must be implemented to enable the feature:

- 1) Any User allowed to perform the function must have the 'S'ervice option set to Yes in the Menu Options screen in the Menu Group assigned to their User Type.
- 2) The System Input "Request for Service" (C01:S28) must be assigned to an Area that is turned On.
A suitable Process Group must be used when assigning the Input to the Area to provide the appropriate reporting options. The Process Group must also specify an appropriate Contact ID Event Code. e.g. 411.
- 3) When <MENU>, 8, 1 is selected by the User, an alarm will be generated on C01:S28 and will be reported to the Central Monitoring station.

Once enabled, activating the "Request Service" function is simply a matter of selecting the menu option by pressing the key sequence <MENU>, <8>, <1>.

Report Initiated

The screen will display "Report Initiated" to confirm the operation.
(V4 or later)

Press the <END> key to exit the menu.

NOTE: This option is only valid if the Control Module is connected to a telephone line and the function has been enabled in the Installer programming options.

Test Report

MENU 8, 2

2. Test Report

This menu option allows a customer to have the ability to trigger a Test report to the Monitoring station. This may be required if work has been carried out on the system or the telephone line cabling and it is necessary to test that communications with the Monitoring station can still be established.

Important Note: You will need to check with the Monitoring Station whether or not this service is provided.

This function may also be used to restore a Comms Fail alarm after the conditions that caused the Alarm have been rectified.

The following programming steps must be implemented to enable the feature:

- 1) Any User allowed to perform the function must have the 'S'ervice option set to Yes in the Menu Options screen in the Menu Group assigned to their User Type.
- 2) The System Input "Manual Trigger" (C01:S19) must be assigned to an Area that is turned On.
A suitable Process Group must be used when assigning the Input to the Area to provide the appropriate reporting options. A Contact ID Event Code: 601 will automatically be used unless another Event Code is specified in the Process Group.
- 3) When <MENU>, 8, 2 is selected by the User, an alarm will be generated on C01:S19 and will be reported to the Central Monitoring station.

Once enabled, activating the "Test Report" function is simply a matter of selecting the menu option by pressing the key sequence <MENU>, <8>, <2>.

**Report
Initiated**

The screen will display "Report Initiated" to confirm the operation.
(V4 or later)

Press the <END> key to exit the menu.

NOTE: This option is only valid if the Control Module is connected to a telephone line and the function has been enabled in the Installer programming options.

Secure Options Programming

MENU 8, 3

There are two special types of Users in the 3000 / Access 4000 system:

-The **Installer** code (User 00001) is used for most system programming and installation and is usually held by the installation company.

-The **Master** code (User 00002) is used for some system programming and is usually held by the owner of the system and/or the person responsible for security. User codes 00003 up to the maximum User code are used by others within the system for turning ON and OFF Areas and accessing Doors as required. These User codes may also be granted limited programming rights by the master or installer.

In general the installer code is the most powerful code within the system, being able to perform certain programming functions that even the Master code cannot perform. However the installer code operations can be curtailed in the following ways.

1. The Master code can be given permission to lock the Installer code out if desired, which will prevent installer code access, either on-site or remotely. However, the Master still cannot view the Installer code or access Installer code only programming.
2. The Installer code can be prevented from changing any codes except their own. (Usually a User code given code programming permission can program all codes above and including their own)
3. The system can be disabled from allowing installer code defaulting via the "Code" Pins on the Control Module.

The system uses a special programming screen called the "Security Options" to determine how overall security is to operate for this system. Security options are either set or clear and when manufactured, all security options are set to clear. The installer can elect to set any or all of the security options at any time, but once they are set they cannot be cleared, even by the installer. Security options can only be cleared by the Distributor.

It is possible for the Installer code to be locked out by incorrect programming or by the Master code. For example, if the Installer code User Type is set to "None" accidentally then every time the installer enters their code the screen will display, "Installer Cancelled" and deny access. This can be overcome by simply powering down and up the system. When the system is powered up, the first time the installer code is entered at any Terminal the User will be presented with the main programming menu even if the installer has been locked out. The installer can now go and rectify the programming fault which denied them access.

Secure NOL
Options -> nnn

This screen allows the Installer to programme a number of system Security related options. **Once set they cannot be cleared unless the Control Module or firmware chip is returned to the distributor.**

N No Code Default

Normally, if the Installer forgets their code, they can default their code back to "01" by resetting the system whilst shorting out the "Code Reset" pins and then going into User Code programming and entering a new User Code. (See "Installer Code Default Procedure" below). If the No code default security option is set to "Y", the Installer code cannot be defaulted in this manner. If the Installer code is forgotten and the No code default security option is set to "Y", the panel must be returned to the manufacturer. Replacing or defaulting the options chip will not change the Installer code.

O Own Code

Normally the Installer code allows programming access to all other User Codes, including the Master code. Other PIN codes cannot be inspected, but they can be replaced or cancelled, or the programming of the User Code can be altered. If the Own code security option is set to "Y", the Installer can only access their own code. This means the upload/download package cannot be used for User Code maintenance by the Installer code and, if the Master code is forgotten, the Installer cannot reprogramme it.

L Lockout Installer

Normally the Master code cannot lockout the Installer code, however, if this option is set to "Y", the Master code can lockout the Installer code.

Activation

When the Master code User (U002) logs on to the system with the "L" code set, the Master User is able to access the Security Options MENU 8, 3.

Lockout
Installer ? n

This screen enables the Master code User to Lockout the Installer by entering a "Y" at the cursor position. The screen is saved and exited by pressing END.

To reinstate Installer access, the Master code User must go to MENU 8, 3 and change the "Y" flag to a "n".

Installer Code Default Procedure

Under certain circumstances, the Installer may find that they cannot access the system with their PIN code. This may be due to one or more of the following conditions:

1. The PIN code has been forgotten
2. An expiry date/time has been programmed for the Installer and the code has expired.
3. The User Type and/or Menu Group assigned to the Installer has been changed.

If this occurs, the Installer can regain access to the system by using the following procedure **provided that the (N)o Code Default option is set to "no"**.

1. Turn off the Area and 24Hr part of the Area that monitors Control Module Cabinet and Tamper, if possible.
2. Remove the Cover from the Control Module enclosure.
3. Power down the Control Module and disconnect the battery.
4. Place a short (Jumper Link) on LK3 (Code Reset)
5. Reapply power to the Control Module.
6. Wait until the "Rx" LED stops flashing, then remove the short on LK3. This resets the Installer PIN Code to "01" and expiry year to "88" (Expiry disabled).
7. Press "0", "1", "OK", "2", "1" at the LCD Terminal.
(Do not press the Menu Key after "0", "1", "OK")
This provides access directly to User Code Programming, giving the Installer the opportunity to rectify the programming problems.
8. Reprogramme U00001 (Installer) options as required:
 - Assign correct User Type and/or correct User Type options, if necessary.
 - Correct Menu Group options, if necessary.
 - Reprogramme a unique PIN Code.
 - Clear expiry date/time fields, if necessary.

Answer Phone

MENU 8, 4

If remote access to the system is required for service purposes via the dialer phone line, the service technician may ask you to activate the "Answer phone" function, in order to establish the communications connection.

Activating the Answer Phone function is simply a matter of selecting the menu option by pressing the key sequence <MENU>, <8>, <4>.

DO NOT USE THIS OPTION UNLESS INSTRUCTED TO DO SO BY YOUR INSTALLER / SERVICE TECHNICIAN.

Answering Phone

The display will show a message to indicate the status and then return to the main menu.

Press the <END> key to exit the menu. This will not effect the remote connection.

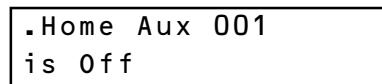
NOTE: This option is only valid if the Control Module is connected to a telephone line and the function has been enabled in the Installer programming options.

Control Menu

HOME AUXILIARIES



Home Auxiliaries are outputs in the system that can be turned On and Off by a User. Access to control of some Home Auxiliaries may be gained by simply pressing the <RIGHT> arrow key on the LCD Terminal. Other Home Auxiliaries need to be more secure and can only be controlled via access to this Control Menu option.



The display shows the current status of the first Home Auxiliary. (The example shown opposite is a default Home Auxiliary name. This type of name should only appear for Home Auxiliaries that are not used.)



To select a Home Auxiliary, use the <UP> and <DOWN> Arrow keys to search through the list.

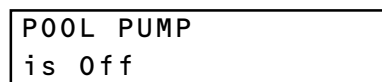
OR



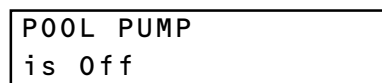
Search for a Home Auxiliary by name by pressing the DIGIT key that represents the first letter of the name. (You may have to press the key 2 or 3 times, depending on the letter required and the Home Auxiliary names in the system.)



If the Home Auxiliary you want is not displayed because of other names beginning with the same letter, use the <DOWN> Arrow key to locate it.



Controlling the Home Auxiliary.



When the desired Home Auxiliary is displayed;

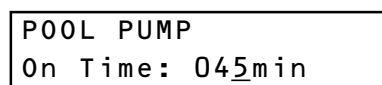


Press the ON key or OFF key to turn the Auxiliary On or Off as required.

OR



Press the <LEFT> arrow key to enter a Home Auxiliary "On time" in Minutes or the <RIGHT> arrow key to enter an "On time" in Seconds. (V2 or later only)



Use the <DIGIT> keys to enter the time period required, then <OK> to execute the action.



Select another Home Auxiliary to control using the <UP> and <DOWN> arrow keys or <DIGIT> keys.

OR



Press the <END> key to exit to the normal display.

DOOR CONTROL

MENU 9 2
YZ DEF

The “Door Control” option allows a User with the appropriate authority to Un-lock and Lock individual Doors (V3 or later only) or all Doors in the Door List assigned to their User Type.

e.g. If Doors are programmed for “free access” during the day, it may be necessary to re-lock the doors if all the staff leave early to attend a company function at another location.

OR

It may be necessary to un-lock doors if free access is required outside normal working hours to allow staff to fulfil an urgent order.

NOTE: Only Doors included in the User’s “Door List” (defined in their “User Type”) can be controlled.

Door to
Control? 000

? ??? ? ??? OK

The display will allow you to enter the number of the Door to control.

Use the <DIGIT> keys to enter the three digit Door number then <OK>. (Press <END> to abort)

A Door number of “000” will include all Doors in the User’s Door List.

(L)ock or
(U)nlock ?

4 JKL 7 STU

The display will now allow you to select the “Lock” or “Unlock” operation.

Press the <4> (L) key to Lock the Door.

Press the <7> (U) key to Unlock the Door.

Operation
Done

The display will briefly show the “Operation Done” message to indicate that the operation was successful and then return to the main menu.

END

Press the <END> key to exit to the normal display or select another Menu option.

LIFT CONTROL



“Lift Control” allows a User with the appropriate authority to Access or Secure Floor/s in a specific Lift Car. If accessed, all Users may access the floors. If secured, only valid Users may access the floors.

e.g. If Floors are normally programmed for “free access” during the day, it may be necessary to Secure the floors to restrict access during a VIP visit.

OR

If access is required outside normal working hours for staff to complete an urgent project, it may be necessary to Access the Floors.

Lift
Car ? 01



The display will allow you to enter the number of the Lift Car to control.

Use the <DIGIT> keys to enter the two digit Lift Car number then <OK>. (Press <END> to abort)

A Lift Car number of “00” will include all Lifts.

Floor
to do ? 00



The display will allow you to enter the number of the Floor to control. (V3 or later only)

Use the <DIGIT> keys to enter the two digit Floor number then <OK>. (Press <END> to abort)

A Floor number of “00” will include all Floors.

(A)ccess or
(S)ecure ?



The display will allow you to select the “Access (Free) Floor” or “Secure Floor” operation.

Press the <1> (A) key to Access (Free) the Floor.

Press the <7> (S) key to Secure the Floor.

Operation
Done

The display will briefly show the “Operation Done” message to indicate that the operation was successful and then return to the main menu.



Press the <END> key to exit to the normal display or select another Menu option.

ADJUST COUNT



Adjust Count allows a User with the appropriate authority to reset a Counter (to 0) or to set the count value to the required number.
(V3 or later only)

. Counter 001
SetCnt: 00000000

The display will show the first Counter and the current count value.



Use the <UP> and <DOWN> arrow keys to select the Counter to reset or adjust.

Camera 2 Film
SetCnt: 00000000



Use the <DIGIT> keys and <RIGHT> Arrow key (if necessary) to enter in the count value then press <OK>.

The <OFF> key can be used to clear the field. (Reset to 0)



Press the <END> key to exit to the normal display or select another Menu option.

TABLES

This section provides general system reference tables and communications report mapping details.

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Common Messages

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School 19

SIMS-II

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Opening/Closing

Alarm Reports

System Inputs

Note: All System Inputs, when activated, generate an Alarm state and a Tamper state allowing them to be processed as either an Alarm and/or Tamper condition depending on the Input Type options selected in the Process Group.

For this reason, changes in state on System Inputs will continue to be saved to Review, (and in some cases processed as Tamper alarms) even if all the Areas relevant to those Inputs are turned Off, because the 24 Hr (Tamper) part of the Area is still On.

To disable the Review logging (and processing if relevant) of System Inputs, the 24Hr (Tamper) part of the Area must also be turned Off.

See "Area Programming", MENU, 7, 1 for more information.

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Control Module (Cnn:Snn)

No	Name	Description	Default CID Event Code	Default Process Group -If "Add System I/Ps" used
S01	Cabinet Tamper	Alarm when Controller Tamper Input un-sealed.	145	PG009 System Tamper
S02	Internal Siren Tamper	Alarm when no speaker load on S1 Siren output.	145	PG009 System Tamper
S03	External Siren Tamper	Alarm when no speaker load on S2 Siren output.	145	PG009 System Tamper
S04	AC Fail - Mains Power	Alarm when no AC present.	301	PG010 System Silent
S05	Low Battery	Alarm when battery voltage below 11V. De-bounce prevents state chatter.	302	PG010 System Silent
S06	LAN Fuse Tamper	Alarm when LAN fuse blown.	140	PG010 System Silent
S07	Detector Fuse Tamper	Alarm when Detector fuse blown.	140	PG010 System Silent
S08	LAN Comms Status	Not Used. (Spare for future applications)	143	-
S09	Battery Test Fail	Alarm when Low Battery condition detected while a Battery Test is running.	309	PG010 System Silent
S10	Checksum Alteration	Program change. Not Used. (Spare for future applications)	306	PG012 System Local
S11	System Power on reset	Not Used. (Spare for future applications)	305	-
S12	Line Fault	Alarm if no Line detected before dialing.	351	PG012 System Local
S13	UART 1 Problems	Printer Comms Task: Alarm while CTS low. GSM Comms Task: Alarm on 3 consecutive failed comms with FE3000. Restore on successful poll of FE3000. (V4.5 or later)	330	PG012 System Local
S14	UART 2 Problems		330	PG012 System Local
S15	UART 3 Problems		330	PG012 System Local
S16	UART 4 Problems		330	PG012 System Local
S17	Zone self test fail	Alarm when a "Self Test" Zone fails the Zone Self Test routine. <i>See "Zone Input Testing" in the Applications section for details.</i>	307	PG012 System Local
S18	Time Report	Alarm when "Trigger Time Report" action triggered by a TimeZone program.	602	PG010 System Silent
S19	Manual Trigger	Alarm when Menu, 8, 2 (Test report) selected.	601	PG010 System Silent
S20	Comms Backup	Alarm when "Backup attempts" is reached. Restore on next acknowledged Xmit event.	350	PG012 System Local
S21	Comms Fail	Alarm at maximum attempts/buffer full. Restore on next acknowledged Xmit event or Comms Task set to Idle then Active.	354	PG012 System Local
S22	Phone	Alarm when Answer Call Comms Task detects no DC on phone line. Restores when DC detected. Hysteresis prevents state chatter.	351	PG012 System Local
S23	Module Substitution "New Module"	Alarm when a non-LAN secured Module is connected to a Secured LAN. Restores when Module removed or LAN Secure (MENU, 7, 8, 1) is performed.	140	PG010 System SilentA
S24	Pre-arm 1 Test Start	Alarm while Pre-arm test running on an Odd Area.	140	-
S25	Pre-arm 1 Test Fail	Alarm when Pre-arm test failed on an Odd Area. Restore when Pre-arm test passed.	140	-
S26	Pre-arm 2 Test Start	Alarm while Pre-arm test running on an Even Area.	140	-
S27	Pre-arm 2 Test Fail	Alarm when Pre-arm test failed on an Even Area. Restore when Pre-arm test passed.	140	-
S28	Request for Service	Alarm when Menu, 8, 1 (Req. Serv.) selected.	140	-
S29	Intell. Reader Problem	Alarm when an Intell 4 Door Access Module fails checksum test after a database change. Restores when all IFDAMs pass the checksum test.	140	-
S30	GSM Problem	Alarm when no acknowledge received and no more numbers to try. Restore when Comms Task re-started or a valid "R" command received via SMS.	140	-
S31	Expander Power Test	Alarm while manual Expander Battery Test enabled. (MENU, 4, 8. Off key starts Test, On key ends test)	140	-
S32	(Spare)		140	-

LCD Terminals (Tnn:Snn)

No:	Name	Description	Default CID Event Code	Default Process Group If "Add System Inputs" used
S01	Cabinet Tamper	Alarm when LCD Terminal Tamper Input un-sealed.	145	PG009 System Tamper
S02	Panic	<HELP> key pressed 3 times consecutively whilst logged out. <i>See User Manual for more details.</i>	120	PG009 System Tamper
S03	Door Forced	If Terminal used for Access Control. Alarm if Z01 unsealed without valid activation of Lock Aux. (X01)	420	PG014 Access Alarm
S04	Door Held	If Terminal used for Access Control. Alarm if Z01 unsealed for longer than the Lock Time + Max Door Open Time. Restore on Z01 Seal or next Valid Door Access.	420	PG015 Access Silent
S05	Operator Duress	Alarm when a User Duress PIN Code entered. <i>See User Manual for more details.</i>	122	PG006 Duress (V4.5 or later) PG010 System Silent (Prior to V4.5)
S06	Deadman	Not Used. (Spare for future applications)	102	PG010 System Silent
S07	Lockout.	Too many PIN tries	140	PG013 Access Local
S08	LAN Comms Problem	Alarm if Terminal fails to respond to a number of consecutive comms packets from the Controller.	143	PG011 System LAN

32 Zone Expanders (Bnn:Snn) and 16 Zone Expanders (Enn:Snn)

No:	Name	Description	Default CID Event Code	Default Process Group If "Add System Inputs" used
S01	Cabinet Tamper	Alarm when Expander Tamper Input un-sealed.	145	PG009 System Tamper
S02	Internal Siren Tamper	Alarm when no speaker load on S1 Siren output.	145	PG009 System Tamper
S03	External Siren Tamper	Alarm when no speaker load on S2 Siren output.	145	PG009 System Tamper
S04	AC Fail	Alarm when no AC present.	301	PG010 System Silent
S05	Low Battery	Alarm when battery voltage below 11V. De-bounce prevents state chatter.	302	PG010 System Silent
S06	LAN Fuse	Alarm when LAN fuse blown.	140	PG010 System Silent
S07	Detector Fuse	Alarm when Detector fuse blown.	140	PG010 System Silent
S08	LAN Comms Problem	Alarm if Terminal fails to respond to a number of consecutive comms packets from the Controller.	143	PG011 System LAN
S09	Battery Test	Alarm when Low Battery condition detected while a Battery Test is running.	309	PG010 System Silent
S10	Program Change	Not Used. (Spare for future applications)	306	-

Reader Modules (Rnn:Snn)

See "Reader Module programming" (MENU, 7, 2, 4) for details of Preconfigured Zone Inputs (Rnn:Znn)

No:	Name	Description	Default CID Event Code	Default Process Group If "Add System Inputs" used
S01	Cabinet Tamper	Alarm when Access Module Tamper I/P un-sealed.	145	PG009 System Tamper
S02	Low Volts	Alarm when supply voltage drops below 10.5V DC. Restore when supply voltage goes above 11V DC.	302	PG010 System Silent
S03	1st Door Forced	Alarm if Reed1 or Tongue1 (if used) unsealed without valid activation of Lock Aux. (X01) Restore when both Reed1 & Tongue1 sealed or next valid Door Access.	140	PG014 Access Alarm
S04	1st Door Held	Alarm if Reed1 or Tongue1 (if used) unsealed for longer than the Lock Time + Max Door Open Time. Restore when both Reed1 & Tongue1 sealed or next valid Door Access.	140	PG015 Access Silent
S05	2nd Door Forced	Alarm if Reed2 or Tongue2 (if used) unsealed without valid activation of Lock Aux. (X04) Restore when both Reed2 & Tongue2 sealed or next valid Door Access.	140	PG014 Access Alarm
S06	2nd Door Held	Alarm if Reed2 or Tongue2 (if used) unsealed for longer than the Lock Time + Max Door Open Time. Restore when both Reed2 & Tongue2 sealed or next valid Door Access.	140	PG015 Access Silent
S07	Illegal Card (Either Reader)	Alarm when an unrecognised Card is presented at either Reader Head.	140	PG013 Access Local
S08	LAN Comms Problem	Alarm if Module fails to respond to a number of consecutive comms packets from the Controller.	143	PG011 System LAN

8 Zone Mini Expanders (Mnn:Snn)

No:	Name	Description	Default CID Event Code	Default Process Group If "Add System Inputs" used
S01	Low Volts	Alarm when supply voltage drops below 10.5V DC. Restore when supply voltage goes above 11V DC.	302	PG010 System Silent
S02	Zone1 Extra	Z01 defined as "Suspicion" or Holdup/Susp" Type: Alarm when Z01 is shorted. Restore when Z01 is Sealed, in Alarm or Open circuit. Z01 defined as "Counter" Type: Alarm when counter exceeds Trigger 2 value. Restore when counter goes below Trigger 2 value.	140	-
S03	Zone2 Extra	As per S02 "Zone1 Extra", but uses Z02.	140	-
S04	Zone3 Extra	As per S02 "Zone1 Extra", but uses Z03	140	-
S05	Zone4 Extra	As per S02 "Zone1 Extra", but uses Z04.	140	-
S06	Zone5 Extra	As per S02 "Zone1 Extra", but uses Z05.	140	-
S07	Zone6 Extra	As per S02 "Zone1 Extra", but uses Z06.	140	-
S08	Zone7 Extra	As per S02 "Zone1 Extra", but uses Z07.	140	-
S09	LAN Comms Problem	Alarm if Module fails to respond to a number of consecutive comms packets from the Controller.	143	PG011 System LAN

Analogue Module (Qnn:Snn)

No:	Name	Description	Default CID Event Code	Default Process Group If "Add System Inputs" used
S01	Cabinet Tamper	Alarm when Analogue Module Tamper I/P un-sealed.	145	PG009 System Tamper
S02	Low Volts	Alarm when supply voltage drops below 10.5V DC. Restore when supply voltage goes above 11V DC.	302	PG010 System Silent
S03	LAN Comms Problem	Alarm if Module fails to respond to a number of consecutive comms packets from the Controller.	143	PG011 System LAN

Intelligent 4 Door Access Module (Inn:Snn)

*See "Intelligent 4 Door Access Module programming" (MENU, 7, 2, 8)
for details of Preconfigured Zone Inputs (Inn:Znn)*

No:	Name	Description	Default CID Event Code	Default Process Group If "Add System Inputs" used
S01	Lock Tamper. Door #1	Alarm while load (Lock coil) removed from output. <i>See installation manual for wiring configuration required for this feature.</i>	145	PG014 Access Alarm
S02	Lock Tamper. Door #2		145	PG014 Access Alarm
S03	Lock Tamper. Door #3		145	PG014 Access Alarm
S04	Lock Tamper. Door #4		145	PG014 Access Alarm
S05	Door Forced. Door #1	Alarm if Reed or Tongue Input (if used) unsealed without valid activation of Lock Aux. Restore when both Reed & Tongue Inputs sealed or on next valid Door Access.	140	PG014 Access Alarm
S06	Door Forced. Door #2		140	PG014 Access Alarm
S07	Door Forced. Door #3		140	PG014 Access Alarm
S08	Door Forced. Door #4		140	PG014 Access Alarm
S09	Door Open Too Long. D #1	Alarm if Reed or Tongue Input (if used) unsealed for longer than the Lock Time + Max Door Open Time. Restore when both Reed & Tongue Inputs sealed or next valid Door Access.	140	PG015 Access Silent
S10	Door Open Too Long. D #2		140	PG015 Access Silent
S11	Door Open Too Long. D #3		140	PG015 Access Silent
S12	Door Open Too Long. D #4		140	PG015 Access Silent
S13	Invalid Card. Door #1	Alarm when an unrecognised Card is presented at either Reader Head.	140	PG013 Access Local
S14	Invalid Card. Door #1		140	PG013 Access Local
S15	Invalid Card. Door #1		140	PG013 Access Local
S16	Invalid Card. Door #1		140	PG013 Access Local
S17	Cabinet Tamper.	Alarm when Module Tamper I/P un-sealed.	145	PG009 System Tamper
S18	General Lock Fault.	Not Used. (Spare for future applications)	140	PG014 Access Alarm
S19	Battery Test Fail.	Alarm when Low Battery condition detected while a Battery Test is running.	309	PG010 System Silent
S20	AC Fail - Mains Power.	Alarm when no AC present.	301	PG010 System Silent
S21	Low Battery.	Alarm when battery voltage below 10.5V DC.	302	PG010 System Silent
S22	LAN Fuse Tamper.	Alarm when LAN fuse blown.	140	PG010 System Silent
S23	Detector Fuse Tamper.	Alarm when Detector fuse blown.	140	PG010 System Silent
S24	LAN Comms Problem.	Alarm if Module fails to respond to a number of consecutive comms packets from the Controller.	143	PG011 System LAN

Wireless Network Module [formally "SpreadNet"] (Nnn:Snn)

No:	Name	Description	Default CID Event Code	Default Process Group If "Add System Inputs" used
S01	Timeout	Alarm when any one of the 16 Zone Transmitters for this Module fails to report in the specified poll time. Restore when all Transmitters have reported within the low priority poll time, or when the Comms Task is re-started.	353	PG001 Burglary
S02	Low Battery	Alarm when any one of the 16 Zone Transmitters for this Module reports a Low Battery condition. Restore when the Comms Task is re-started.	356	-
S03	Spare		140	-
S04	Spare		140	-

LAN Power Supply Module (Pnn:Snn)

No:	Name	Description	Default CID Event Code	Default Process Group If "Add System Inputs" used
S01	Cabinet Tamper	Alarm while LAN PS Tamper Input un-sealed.	145	PG009 System Tamper
S02	AC Fail	Alarm while no AC present.	301	PG010 System Silent
S03	Low Battery	Alarm when battery voltage below 11V. De-bounce prevents state chatter.	302	PG010 System Silent
S04	Battery Fail	Alarm when Deep discharge protection is activated. (Battery volts below 10.5V) Restore when Battery volts >11.6V	140	PG010 System Silent
S05	Detector Fuse	Alarm while Detector fuse blown.	140	PG010 System Silent
S06	LAN Fuse	Alarm while LAN fuse blown.	140	PG010 System Silent
S07	Battery Fuse	Alarm while Battery fuse blown.	140	PG010 System Silent
S08	Aux 2 Fuse Fail	Alarm while Aux 2 (Satellite Siren) Fuse blown.	140	PG010 System Silent
S09	Aux 2 Tamper	Alarm while Load disconnected from Aux 2 (Satellite Siren)	140	PG010 System Silent
S10	Detector Over-current	Alarm while Detector current exceeds the programmed value.	140	PG010 System Silent
S11	Battery Over-current	Alarm while Battery current exceeds the programmed value.	140	PG010 System Silent
S12	Over-volts	Alarm while Detector, Battery or LAN +ve volts exceeds 15.5V.	140	PG010 System Silent
S13	Low Volts	Alarm while Detector, Battery or LAN +ve volts drops below 12.5V.	140	PG010 System Silent
S14	Slave Fail	Alarm while Master Unit is unable to communicate with one or more Slaves.	140	PG010 System Silent
S15	Battery Test Fail	Alarm when Battery volts below 11.0V during Dynamic Battery Test.	309	PG010 System Silent
S16	LAN Comms Problem	Alarm if LAN PS fails to respond to a number of consecutive comms packets from the Controller.	143	PG011 System LAN

Review Messages

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Message**Meaning****Air Conditioning**

Zone Damper	A zone damper auxiliary has been operated (On = damper closed)
A/C Unit	The compressor has been turned on/off
R/Cycle	Compressive heating (auxiliary on) or cooling (auxiliary off) selected
Fan	Fan has been turned on (auxiliary on) or in auto mode (auxiliary off)
Fresh	Fresh air damper has been opened (auxiliary on)
Bypass	Bypass damper has been closed (auxiliary on)
Exhaust	The exhaust output has been turned on.

Area On/Off Messages

No Areas	Area on / off denied because there are no Areas
Too Big	Area on / off denied because it exceeds the maximum allowable Areas
Already On	Area on denied because it is already on
Already Off	Area off denied because it is already off
In Use	Area on / off denied because it is being used by another User
No Options	A card has been presented to arm an Area, but no Area has been defined for the other side of the door
Area On	A card has been presented to arm an Area, but the Area is already on
Not in List	A card has been presented to arm an Area, but the Area is not in the Area On List in the User's User Type.
24Hr Off	Area's 24 hour tamper partition has been turned off
Defer timer started	A deferred Area has been turned off and the deferred timer has started
Warning timer started for 250 secs	Warning beeps are being emitted from the Terminal. They will continue for 250 seconds after which time, if no valid code has been re-entered, the deferred Areas will be turned on.
Area On by timer	The Area has been turned on by the timer.

Auxiliary Events Message

Illegal Aux	Auxiliary definition is illegal
Module not present	Module is not on the network
Unnecessary	Auxiliary is already on/off
Over-ridden	Auxiliary action aborted due to an over-ride from another task
Refreshed	Auxiliary Timer has been restarted
(Code Entry)	Auxiliary on/off by a User valid code
(Door Lock)	Auxiliary on/off by a valid access at a Door
(Menu)	Auxiliary on/off by a User at a LCD Terminal
Exit Aux	Auxiliary on/off by an Area exit delay
Entry Aux	Auxiliary on/off by an Area entry delay
Siren Aux	Auxiliary on/off by an Area Siren
Close Aux	Auxiliary on/off by an Area close/open
Tamper Aux	Auxiliary on/off by an Area tamper
Alarm Aux	Auxiliary on/off by an Area alarm
Isolate Aux	Auxiliary on/off by an Area isolate
Aux Timer	Auxiliary on/off by an Auxiliary Timer
(Time-Zone)	Auxiliary on/off by a TimeZone
(Func. Zone)	Auxiliary on/off by a Function Zone
(Calc. Aux)	Auxiliary on/off by a Calculated Auxiliary

Message	Meaning
Module Reset	Auxiliary on/off by a module reset
Exit Button	Auxiliary on/off by a REX button
Entry Button	Auxiliary on/off by a REN button
(Diary)	Auxiliary on/off by a Diary event
Seize Aux	Auxiliary on/off by a Comms Task seizing the line
Pass Aux	Auxiliary on/off by a Comms Task valid acknowledge
CmdBk Aux	Auxiliary on/off by a Comms Task Command back sequence
Terminal	Auxiliary on/off by Home Aux Right Arrow at a Terminal.

Comms Task Messages. General.

Aborted	A Comms Task has been aborted by the installer
Started	A Comms Task has been started by the Installer/Reset
Waiting for H/S	A Comms Task is waiting for a Hand Shake from the Central Station
Waiting for Ack	A Comms Task is waiting for an acknowledge signal
No Ack	A Comms Task has not had data acknowledged within the time required by this format
Held up	A Comms Task has been held up by resources being used by another Comms Task
Continue	A Comms Task which was waiting for resources can now use those resources and continue
Too Long	A Comms Task's maximum on-line time has been exceeded
Overflow !	A Comms Task has not been able to send information for so long that its send buffer has overflowed. Information will not be sent.
Triggered	A Comms Task has detected information that it needs to communicate
Send Data	A Comms Task has just sent data in the required format
Modem Connect	A Comms Task has just had a legal modem connect sequence
Lost Carrier	A modem based Comms Task has just lost modem carrier
Off-Line	An RS232 based Comms Task cannot send information because the peripheral device is off-line
On-Line	An RS232 based Comms Task can now send information because the peripheral device has just gone on-line
Format ?	A Comms Task has been aborted because the format is unknown
By User	A Comms Task has been aborted by the Installer
Port ?	A Comms Task has been aborted because the specified port is illegal
Not IR ?	A Comms Task has been aborted because a modem handshake was received for a non modem format

Comms Task Messages - Dialer

Waiting to Dial	A Comms Task is waiting for a dial tone
Dial	A Comms Task is dialling a number
Max Attempts !	A Comms Task has given up dialling - information will not be sent.
Call too long	A Comms Task has exceeded the maximum on-line time and hung up.
Tone too long	A Comms Task has detected a continuous tone
Dial Hold off	A Comms Task is waiting an anti-jam time until re-attempting dialling. The line remains seized.
Hang up	A Comms Task has just hung up the line
No Line !	No DC line voltage has been detected prior to dialling
Delayed by Ring	A Comms Task is being delayed in making a call because the incoming line is ringing

Message	Meaning
Looped Line	A Comms Task has just looped the line
Answered	A Comms Task has just answered a ringing phone
No Phone #s	A Comms Task cannot dial because there are no programmed telephone numbers
Quiet	The telephone line has no signals present
Noise	The telephone has many frequencies present that cannot be decoded. They may be speech or noise.
Freq. ?	A single frequency has been detected which is not recognised
Dial	Dial tone has been detected
Busy	Busy tone has been detected
Ring	Ring cadence has been detected
STD	STD beeps have been detected
1400Hz	A 1400Hz slow format handshake has been detected
2300Hz	A 2300Hz slow format handshake has been detected
AdFast	An Ademco fast format handshake has been detected
Modem	A CCITT modem handshake has been detected

Comms Task Messages **- SpreadNet**

Aborted - No Structure	The current memory chip has not been configured to accommodate this module type.
Wrong Size	Contact Technical Support
Wrong Type	Contact Technical Support
Wrong Module N08:Z01	The Transmitter has been set to a device number that is higher than that which the memory has been configured to handle. (The maximum device number is equal to the maximum Wireless Network module number)
TxSealed N03:Z12 S/N:71/10 dB	Review has recorded a transmission from the nominated transmitter including its current state, signal and noise levels.
TxAlarm N03:Z11 S/N:69/09 dB	Review has recorded a transmission from the nominated transmitter including its current state, signal and noise levels.
TxTamper N01:Z07 S/N:55/15 dB	Review has recorded a transmission from the nominated transmitter including its current state, signal and noise levels.
TxLowBatt N02:Z04 S/N:45/13 dB	Review has recorded a transmission from the nominated transmitter including its current state, signal and noise levels.
TxNoPoll N05:Z16	This review entry records that the expected transmission from the nominated transmitter did not occur.
No Poll	This review entry is generated whenever an RS232 communication with the receiver fails and so long as the (E)rrors save option has been set.
Off Line	The UART problems system input has been put into alarm because there have been 5 consecutive failed communication attempts with the SpreadNet receiver
On Line	The UART problems system input has been restored because a successful communication has just taken place with the SpreadNet receiver.

Message	Meaning
<u>Comms Task Messages -Inovonics</u>	
Aborted - No Structure	The current memory chip has not been configured to accommodate this module type.
Wrong Size	Contact Technical Support
Wrong Type	Contact Technical Support
(Detailed Review only)	
Wrong Module N08:Z01	The Transmitter has been set to a device number that is higher than that which the memory has been configured to handle. (The maximum device number is equal to the maximum Wireless Network module number)
(Detailed Review only)	
Rx Cmd \$0000	An Error has occurred between the FA400 Receiver and the IR400 Interface.
(Detailed Review only)	
Tx Sealed N03:Z12 S/N:71/10 dB	Review has recorded a transmission from the nominated transmitter including its current state, signal and noise levels.
Tx Alarm N03:Z11 S/N:69/09 dB	Review has recorded a transmission from the nominated transmitter including its current state, signal and noise levels.
Tx Tamper N01:Z07 S/N:55/15 dB	Review has recorded a transmission from the nominated transmitter including its current state, signal and noise levels.
Tx LowBatt N02:Z04 S/N:45/13 dB	Review has recorded a transmission from the nominated transmitter including its current state, signal and noise levels.
Tx No Poll N05:Z16	This review entry records that the expected transmission from the nominated transmitter did not occur.
Now Polling	Periodic polling between the FA400 Receiver and IR400 Interface has been restored (E)rrors save option must be set to Yes.
No Poll	Periodic polling between the FA400 Receiver and IR400 Interface has failed. (E)rrors save option must be set to Yes.
Rxed Activate	The IR400 interface has been Reset.
Off Line	The "UART problems" system input has gone into alarm because there have been 5 consecutive failed communication attempts with the IR400 Inovonics interface.
On Line	The "UART problems" system input has been restored because a successful communication has just taken place with the IR400 Inovonics interface.
Xmit Discarded	A transmitter report has been received with the wrong Application ID or wrong System ID. It may indicate that other transmitters not associated with this site are within range of the FA400 Receiver.

Comms Task Messages - Securitel

STU Info	A Securitel Comms Task has just received a change in status from the STU
STU Data	A Securitel Comms Task has just sent serial data to the STU
FAULT	A Securitel Comms Task STU has invalid options for a STU fault
NO COMMS	A Securitel Comms Task STU cannot talk to the Scanner
FULL	A Securitel Comms Task STU send buffer is full
NO ACK	A Securitel Comms Task STU has unacknowledged alarms
POLL	A Securitel Comms Task STU has been polled by the network
NO ID	A Securitel Comms Task STU has not been loaded with a soft ID
AUX	A Securitel Comms Task STU has received an Auxiliary control command

Message	Meaning
<u>Comms Task Messages. GSM.</u>	
GSM Status: Reg Rssi: nnn db	Indicates: a) Whether the GSM Modem is correctly registered with the network and able to send Contact ID / SMS. b) The current Signal strength. For reasonable service, the RSSI should be better than -85dB. (i.e. The lower the number, the better) A value of -254 or -255 indicates that no measurement is possible.
GSM Status: Not Reg Rssi: nnn db	
Overflow	Some Alarm information has been lost! Alarms to be sent via either CID or SMS have banked up due to Comms Problems.
Discard Alarms	GSM Modem has failed sending CID Alarms. All alarms up to this point have been discarded.
CT Resumed	A Comms task that was suspended because control was transferred to a backup task has now resumed control again.
Send Msg back to sender / Send Msg to <phone number>	A text message has been sent to the SMS number either as the result of a valid review entry or in reply to a command received via the SMS.
Rxed Msg via <phone number> from <user> <problems>	An SMS command has been received. If the source Phone number and/or a valid User is recognised it is displayed. If the message is rejected due to security, the reason is displayed:
Wrong Phone	Not SMS1 or SMS2 number and "P" in option not enabled.
Need Pin	"P" in option enabled, but no PIN code received.
Wrong Pin	"P" in option enabled and PIN received, but PIN code not from User 1 to 32.
User Cancelled	User Type not assigned to User
Syntax	Problem with command syntax.
Proramming	Problem due to programming error.
Not Allowed	Operation not allowed.
Backup Problem	GSM Comms Task has been triggered as a Backup Task, but GSM Modem is currently unregistered. Alarms are discarded and control returned to the Primary Comms Task.
Backup Started	GSM Comms Task has been triggered as a Backup Task.
Offline	RS232 (UART) Comms with the FE3000 has failed.
Online	RS232 (UART) Comms with the FE3000 is operational AND the GSM Modem has been successfully initialized.
SMS Deferred	"Max messages per 5 min" limit has been reached and no more SMS messages will be sent until the SMS pace timer expires (5 mins). Messages will bank up unless the "R" command is received via SMS.
Rx Cmd \$ccrr (Detailed Review)	Debug message where cc = command & rr = result.
Send Data (Detailed Review)	e.g. \$00eo indicates timeout in response to an enquiry (RS232 disconnected)
Alarms Sent (Detailed review)	Contact ID strings (Up to 3) have been transferred to the FE3000 for transmission as CID Alarms.
Discard SMS	All alarms transferred to the FE3000 have been sent correctly.
	A "R"reset command has been received via SMS to cancel any pending SMS text alarm messages ready to be sent.

Comms Task Messages. 8 Pin.

Timeout	The Verify Timer has expired
Wrong Module	The 8 Pin Comms Task is attempting to use an Invalid Auxiliary. e.g. The Module does not exist, or there are not enough Auxiliaries on the Module.
No #	A Process Group has been assigned to an Input that has no Verify Group.

Message**Meaning****Comms Task Messages. C-Bus.**

Aborted - Structure	A C-Bus Comms Task has been aborted because no C-Bus structure is present.
CTxxx OffLine	C-Bus Comms Task is considered Offline.
CTxxx OnLine	C-Bus Comms Task is considered Online.
CTxxx Timeout (Detailed Review only)	A C-Bus data packet has failed to be received because it took too long to complete
CTxxx Rxed ERR \$dddddd (Detailed Review only)	A C-Bus data packet has failed to be received because of an error.
CTxxx Cbus #ggg On	C-Bus activity has been detected for Group Address "ggg" (decimal).
CTxxx Cbus #ggg Off	Action is either "On", "Off", or "Ramp".
CTxxx Cbus #ggg to LLL	-If a "Ramp" command was detected, "LLL" = Final Ramp level.

Comms Trigger Messages**Last State or New State**

S	Seal
A	Alarm
T	Tamper
I	Isolate

Edge

S	Restore edge
A	Alarm edge
T	Tamper edge
I	Isolate edge

Input Change Messages

Alarm	New alarm
Alm/Rest	Alarm restore
Tamper	New Tamper
Tamp/Rest	Tamper restore
Isolate	New Isolate
Iso/Rest	De-isolate

Door interlocking

IL Reason: No Door	Door not defined
IL Reason: No Struc.	No Door structure
IL Reason: IL Too Big	Specified Interlock group number exceeds number of interlock groups available for this configuration
IL Reason: Qual Aux	Qualify auxiliary is defined and is currently on
IL Reason: Qual Zone	Qualify option is set to "Y" and qualify zone is currently in alarm or tamper
IL Reason: Area On	An Area List is defined and an Area in the list is currently on
IL Reason: Illegal Aux	A Door in the defined Door List has an illegal Door Lock Auxiliary defined
IL Reason: Door Unlocked	A Door in the defined Door List is currently considered unlocked (Door Auxiliary is currently on)
IL Reason: Door Open	A Door in the defined Door List is currently considered open (Door Auxiliary is currently on)

Message	Meaning
<u>Lift Operations</u>	
Illegal Card	Card not recognised by system
Cancelled	User Type is set to zero
No Door/Lift	No Lift Car assigned in reader module programming
No Access Group	No Access Group assigned in Lift Car programming
Not in List	No Lift Car List or no Lifts in Lift Car List in User Type programming
No Buttons	A programming problem has occurred such as Lift Car number, Floors set to zero or illegal auxiliary
Bad Options	At least one Floor button enabled in this Lift Car by this user
LC01 User Floors YYYYnnnn Ynnnnnnn nnnnnnnn nnnnnnnn	Shows Floor buttons being enabled (auxiliary off) for this user at this time from floor 01 to floor 32. Does not include floors already in free access.
LC01 Free Floors nnnnnnYY nnnnnnnn nnnnnnnn nnnnnnnn	Shows Floor buttons enabled (auxiliaries off) from floor 01 to floor 32 after the button time has expired. These will be the floors currently in free access.
LC01 Floor 01 Access (Free Floor)	A button feedback system has just had a floor button pushed on a floor in free access.
LC01 Floor 01 Denied (Secure Floor)	A button feedback system has just had a floor button pushed on a secure floor with no user present
LC01 Floor 01 Access by FRANK BLOGGS	A button feedback system has just had a floor button pushed on a secure floor which is legal for user FRANK BLOGGS
LC01 Floor 01 Denied to FRANK BLOGGS	A button feedback system has just had a floor button pushed on a secure floor which is not allowed for user FRANK BLOGGS.

Lift Interface. EMS High level.

Aborted, Port ?	Port is not in the range 0 to 4
Aborted, Format ?	The option chip is not present or the system Control module is not set up for high level lift interface.
Aborted, No Structure ?	This indicates a programming fault: <ul style="list-style-type: none"> • No lift structure - Config. Error • No Ancillary lift structure - Config. Error • Ancillary structure <> Main structure - Config. Error • More than 32 Lifts - Config. Error • No Legal EMS group/lifts exists for any lift • No. of EMS floors = 0
Timeout	The EMS system has detected a timeout and has set all floors to free access. The system will immediately download the current security mask for all floors.
On-Line	A legal packet has been received by the system after a fatal error.
Off-Line	Three receive errors have occurred in a row and the system has discarded the command it is trying to send. The system will still attempt to send commands to the EMS system. The UART system input will be alarmed.

Message	Meaning
Rx Cmd \$XYNN	This error only occurs in detail mode and represents a communication problem: X = 1 - Timeout waiting for reply X = 2 - Checksum error on received command X = 3 - Group mismatch in reply Y bit 0 set - Command had a checksum error Y bit 1 set - EMS system had a timeout Y bit 2 set - Command had a syntax problem Y bit 3 set - Spare NN = Number of bytes received for this packet

Module Messages. General.

Module No. too big	The module DIPswitch settings are too big for this type and memory configuration
Unknown Type	This module type is not recognised by this version of software
Module Limit Reached	The network can accept no new modules with this memory configuration
Module already exists	Module of this type and No. already on the network
Module Found	A module has been found
Module Lost	A module has been lost. (Failed to respond to an acknowledge request)
Module Timeout	A module has failed to respond within the specified poll time.
Module not initialised	An attempt was made to update a module's programming and the module has failed on the network.
Module not present	An attempt was made to talk to a module that is not on the network
Illegal PIN at	An illegal PIN was detected at a module
Keypad Lockout	The keypad has been locked out at a module
Module Secured	The module has been secured with a new encryption key
Module Power Up	The module has been powered up
Module Substitution	The module encryption key does not match
Module Recovered	A module has been recovered after being absent for a period of time
Illegal Card	An illegal card has been detected at a module
Wrong Format	A card has been presented at a module, the card format of which is not the expected format for that Reader
No Site Codes	A site code style card has been presented at a module but there are no site codes in this configuration
Wrong Site	A site code style card has been presented at a module but the card site code was not found in the allowable site codes
Too Big	A site code style card has been presented with the correct site code, but the card number, after allowing for the card offset, was too big for the memory configuration
Card 1st = 9846433729 Card 2nd = 67458	Whilst the Reader Module was in "Any Credit Card" mode, a Credit Card with the Account number of 984643372967458 was presented.

Siren On/Off Messages

Bell	Siren bell tone was turned on
Sweep	Siren sweep tone was turned on
Fire	Siren Fire tone was turned on
Evac.	Siren evacuation tone was turned on
Over-ridden	The current siren tone was over-ridden by a higher priority tone
No Change	No change was required to the current siren tone
Siren Holdoff	The Siren Holdoff Timer has started.

Message	Meaning
<u>System Messages. General.</u>	
System Reset	The Control Module has just been powered up.
Review Reset	The review memory buffer has been cleared
LAN Secured	The network has been secured
LAN Initialised	The network has just been initialised
Danger-Memory Fault	A problem has been detected with the main memory
Exit Timer	Area Exit timer started/expired
Entry Timer	Area Entry timer started/expired
Pulse Timer	Area Pulse timer started/expired
Siren Timer	Area Siren timer started/expired
Defer Timer	Area Defer timer started/expired
AC Hold off Timer	AC Hold off timer started
Low Batt.	Control Module Low Battery
Prune Enables	System is no longer monitoring the status of the previously selected zones or auxiliaries. (This message only appears in detailed review and only usually when exiting a test mode or similar)
Batt Test "Module #nnn" Skipped	The next module to be tested is present but the battery test time for that module is set to "0"
Batt Test "Module #nnn" Started	The battery test for this module has started (where module is the type eg. Exp32 and #nnn is the module number eg. #001)
Batt Test "Module #nnn" Passed	The battery test was successfully completed
Batt Test "Module #nnn" Failed	The battery test for this module has failed
Batt Test "Module #nnn" Aborted	The test has been stopped for one of the following reasons: <ul style="list-style-type: none"> • A siren has activated on the module being tested • AC mains has failed on the module being tested • The LAN has failed on the module being tested • A Low Battery alarm has occurred on the module being tested • The Power Test menu was entered during a module battery test
Brown out	Supply voltage has dropped but A/C is present.
No Structure	A function is being performed that is not in RAM.
Alarms Reset	On Key Lockout function has been Reset.

User Access/Logon Messages

Cancelled	Access/Logon denied because User Type = 0
Time Violation	Access/Logon denied because of invalid TimeZone
Dual User Violation	Access/Logon denied because need a Dual Code entered prior
Area on	Access denied because Area about to be entered is on
No options	Menu denied because there are no options in this Menu Group
Free Access	Access granted because this Door is in free access mode
User type Problem	Access/Logon denied because the system has an internal problem
Need Card	PIN Access denied because a Card is needed at this time
Not Qualified	Access denied because door not in qualified mode
Anti-Passback	Access denied because an anti-passback rule has been broken
No Door	Access denied because there is no door for this terminal/reader
No Door List	Access denied because there is no Door List for this User Type
Door Not in List	Access denied because Door is not in User Type's Door List at this time
Locked out	Access denied because Installer code has been locked out
No Access Group	Access denied because no Access Group for this door
Need PIN	Card Access denied because a PIN number is required
Wrong Issue	Card Access denied because Card is wrong issue

Message	Meaning
Not Site User	Card Access denied because User is not a site code type Card
Door Held	The nominated door has been held open for a period of time in excess of that specified as the Max. door open time in Door programming.
Dual Provider	The specified card user is a dual user provider, enabling them to grant access to other users through doors which allow dual user access only.

System User Origins.

User 65521	Reset.
User 65522	TimeZone.
User 65523	Function Zone.
User 65524	IRfast / EarthNet Comms Task.
User 65525	Calculated Auxiliary
User 65526	GSM modem / Unidentified User (Home Auxiliary "Toggle from keypad") / "Any Card" card entry mode.
User 65527	ACCEPT Comms Task.
User 65528	DTMF control. (via Answer Call Comms Task)
User 65529	Timer. (Area Defer Timer)

User Menu Usage

Review	User at MENU 1,1
Find User	User at MENU 1,2
User Code	User at MENU 2,1
User Type	User at MENU 2,2
Area List	User at MENU 2,3,1
Door List	User at MENU 2,3,2
Siren List	User at MENU 2,3,3
Floor List	User at MENU 2,3,4
Lift List	User at MENU 2,3,5
Aux List	User at MENU 2,3,6
Menu Group	User at MENU 2,4,1
Access Group	User at MENU 2,4,2
Process Group	User at MENU 2,4,3
Testing	User at MENU 4
Time/Date	User at MENU 5,1
Time Zone	User at MENU 5,2
Holiday	User at MENU 5,3
Diary	User at MENU 5,4
Aux Timer	User at MENU 5,5
Zone	User at MENU 7,0
Area	User at MENU 7,1
Module	User at MENU 7,2
Comms	User at MENU 7,3
General	User at MENU 7,5,1
Memory	User at MENU 7,5,2
Function	User at MENU 7,5,3
Calc. Aux	User at MENU 7,5,4
Home Auxes	User at MENU 7,5,5
Air Con.	User at MENU 7,5,6
Home Zones	User at MENU 7,5,7
Counters	User at MENU 7,5,8
CBus	User at MENU 7,5,9
Door	User at MENU 7,6
LAN	User at MENU 7,8

Message	Meaning
Security	User at MENU 8,3
Aux Control	User at MENU 9,1
Door Control	User at MENU 9,2
Lift Control	User at MENU 9,4
Adj. Count	User at MENU 9,6

Contact ID Messages

Common Messages

Contact ID messages for Zones and system alarms are defaulted according to the table below, but under Process Group programming you can change the Contact ID message to any message of your choice.

See "Contact ID Event Types" following.

(Leaving the message at "000" in the Process Group forces the default message to be used)

3000/Access 4000 Zone/Input	Contact ID message if programmed message = "000"	Contact ID message if programmed message is not "000"
Zone Alarms	140	Use programmed value
Zone Tamper	144	144
Zone Isolates	570	570
System Alarms	Use table below	Use programmed value
System Tamper	Use table below	Use programmed value
System Isolates	572	572

3000/Access 4000 Zone/Input	Message	3000/Access 4000 Zone/input	Message
Cabinet Tamper	145	Battery Test	309
Terminal Panic	120	Fuses	140
Door Forced	420	Checksum Change	306
Door open too long	420	Power on Reset	305
Terminal Duress	122	Phone Line Fault	351
Deadman	102	Dialer Problems	350
Too many Tries	421	Dialer Fail	354
LAN Communications	143	UART Problem	330
Siren Tamper	145	Time report	602
AC Power	301	Manual test	601
Low Battery	302	Zone Self Test	307

Contact ID Point	3000 / Access 4000 "User"	Message
001 to 900	User 00001 to User 00900	402
901	System (e.g. Power on arming)	403
902	TimeZone	403
903	Function Zone	409
904 to 998	Expansion	
999	Users > U00900	402

Contact ID Group Byte	3000 / Access 4000 Area
00	General Open/Close
01 to 98	Area 001 to Area 098
99	Area 99 and above. (Areas 99 to 250)

CONTACTIDEVENTTYPES

Contact ID event types are 4 digits of the form SXYZ. The “S” determines if the event is a new alarm or opening (S = “1” or “E”) or if the event is a restore or closing. (S = “3” or “R”). The remaining part of the event type (XYZ) tells us what type of event it is. The tables below list all possible XYZ meanings:

Event no. (XYZ)	Category	Message
100	EMERG.	Personal
101	EMERG.	Pendant
102	EMERG.	Fail to report
110	FIRE	Alarm
111	FIRE	Smoke detector
112	FIRE	Combustion
113	FIRE	Water flow
114	FIRE	Heat Sensor
115	FIRE	Pull station
116	FIRE	Duct sensor
117	FIRE	Flame sensor
118	FIRE	Near alarm
120	PANIC	Alarm
121	PANIC	Duress
122	PANIC	Silent
123	PANIC	Audible
130	BURGLARY	Alarm
131	BURGLARY	Perimeter
132	BURGLARY	Interior
133	BURGLARY	24 Hour
134	BURGLARY	Entry/Exit
135	BURGLARY	Day/Night
136	BURGLARY	Outdoor
137	BURGLARY	Tamper
138	BURGLARY	Near alarm
140	ALARM	General
141	ALARM	Poll loop open
142	ALARM	Poll loop short
143	ALARM	Expander module fail
144	ALARM	Sensor tamper
145	ALARM	Expander Mod. Tamper
150	24HR	Alarm
151	24HR	Gas detected
152	24HR	Refrigeration
153	24HR	Heating system
154	24HR	Water leakage
155	24HR	Foil break
156	24HR	Day zone
157	24HR	Low gas level
158	24HR	High Temp.
159	24HR	Low Temp.
161	24HR	Air Flow
200	SUPERVISORY	Fire Supervisory
201	SUPERVISORY	Low water Pres.
202	SUPERVISORY	Low CO2
203	SUPERVISORY	Gate Valve

204	SUPERVISORY	Low Water Level
205	SUPERVISORY	Pump activation
206	SUPERVISORY	Pump failure
300	TROUBLE	System
301	TROUBLE	Mains power
302	TROUBLE	Low battery
303	TROUBLE	Bad RAM checksum
304	TROUBLE	Bad ROM checksum
305	TROUBLE	System reset
306	TROUBLE	Program altered
307	TROUBLE	Self test fail
308	TROUBLE	System Shutdown
309	TROUBLE	Battery fail test
310	24HR	Ground fault
320	TROUBLE	Siren/Output
321	TROUBLE	Bell/Siren #1
322	TROUBLE	Bell/Siren #2
323	TROUBLE	Alarm relay
324	TROUBLE	Trouble relay
325	TROUBLE	Reversing relay
330	TROUBLE	Peripheral
331	TROUBLE	Poll loop open
332	TROUBLE	Poll loop short
333	TROUBLE	Expander module fail
334	TROUBLE	Repeater fail
335	TROUBLE	Printer Paper
336	TROUBLE	Local printer
350	TROUBLE	Communications
351	TROUBLE	Phone line #1
352	TROUBLE	Phone line #2
353	TROUBLE	Radio Transmitter
354	TROUBLE	Fail to comm.
355	TROUBLE	Radio Supervisory
356	TROUBLE	Radio polling
370	TROUBLE	Protection Loop
372	TROUBLE	Protection loop open
372	TROUBLE	Protection loop short
373	TROUBLE	Fire loop
380	TROUBLE	Sensor
381	TROUBLE	RF Sensor
382	TROUBLE	RPM Sensor
383	TROUBLE	Sensor tamper
384	TROUBLE	RF Sensor Battery
400 *	CLOSING	General
401 *	CLOSING	By User
402 *	CLOSING	Group User
403 *	CLOSING	Automatic
404 *	CLOSING	Late
405 *	CLOSING	Deferred
406 *	CLOSING	Cancel
407 *	CLOSING	Remote
408 *	CLOSING	Quick-arm
409 *	CLOSING	Key switch
411	REMOTE	Callback Req.
412	REMOTE	Access OK
413	REMOTE	No access

414	REMOTE	System shutdown
415	REMOTE	Dialer Disable
421	ACCESS	No Access, User
422	ACCESS	Access by User
520	DISABLE	Siren/Output
521	DISABLE	Bell/Siren #1
522	DISABLE	Bell/Siren #2
523	DISABLE	Alarm relay
524	DISABLE	Trouble relay
525	DISABLE	Reversing relay
551	DISABLE	Dialer
552	DISABLE	Radio
570	BYPASS (Isolate)	Zone
571	BYPASS	Fire
572	BYPASS	24 Hour
573	BYPASS	Burglary
574	BYPASS	Group
601	TEST	Manual trigger
602	TEST	Periodic
603	TEST	Periodic Radio
604	TEST	Fire
605	TEST	Status follows
606	TEST	Listen-in On
607	TEST	WalkTest

*** NOTE:** For Event Types 400 - 409 CLOSING
“Alarm” = CLOSING
“Restore” = OPENING

3000 / ACCESS 4000 V3.5

**Contact ID
Standard Mapping Tables**

CONTACT ID STANDARD MAPPING					
Account No.	Event Code	Area No.	Zone/Input	Description	Panel Input
	140	nn	1	Controller zone 1	C01:Z01
	140	nn	2	Controller zone 2	C01:Z02
			to	to	"
	140	nn	16	Controller zone 16	C01:Z16
	145	nn	17	Controller cabinet tamper	C01:S01
	145	nn	18	Controller internal siren tamper	C01:S02
	145	nn	19	Controller external siren tamper	C01:S03
	301	nn	20	Controller AC fail	C01:S04
	302	nn	21	Controller Low Battery	C01:S05
	140	nn	22	Controller Lan fuse tamper	C01:S06
	140	nn	23	Controller Detector fuse tamper	C01:S07
	143	nn	24	Controller Lan comms	C01:S08
	309	nn	25	Controller Battery test fail	C01:S09
	306	nn	26	Controller Checksum alteration	C01:S10
	305	nn	27	Controller system power on reset	C01:S11
	351	nn	28	Controller Phone line fault	C01:S12
	330	nn	29	Uart 1 fault	C01:S13
	330	nn	30	Uart 2 fault	C01:S14
	330	nn	31	Uart 3 fault	C01:S15
	330	nn	32	Uart 4 fault	C01:S16
	307	nn	33	Controller Self test fail	C01:S17
	602	nn	34	Controller Time report	C01:S18
	601	nn	35	Controller manual test report	C01:S19
	350	nn	36	Controller Comms backup	C01:S20
	354	nn	37	Controller Comms fail	C01:S21
	351	nn	38	Controller Phone	C01:S22
	140	nn	39	Controller Module substitution	C01:S23
	140	nn	40	Controller System input 24	C01:S24
	140	nn	41	Controller System input 25	C01:S25
	140	nn	42	Controller System input 26	C01:S26
	140	nn	43	Controller System input 27	C01:S27
	140	nn	44	Controller System input 28	C01:S28
	140	nn	45	Controller System input 29	C01:S29
	140	nn	46	Controller System input 30	C01:S30
	140	nn	47	Controller System input 31	C01:S31
	140	nn	48	Controller System input 32	C01:S32
	140	nn	101	LCD Terminal 1 Zone 1	T01:Z01
	140	nn	102	LCD Terminal 1 Zone 2	T01:Z02
	145	nn	103	LCD Terminal 1 Cabinet tamper	T01:S01
	120	nn	104	LCD Terminal 1 Panic	T01:S02
	420	nn	105	LCD Terminal 1 Door forced	T01:S03
	420	nn	106	LCD Terminal 1 Door open too long	T01:S04
	122	nn	107	LCD Terminal 1 Operator duress	T01:S05
	102	nn	108	LCD Terminal 1 Deadman	T01:S06
	140	nn	109	LCD Terminal 1 Too many tries	T01:S07
	143	nn	110	LCD Terminal 1 Lan comms status	T01:S08
				From LCD Terminal Number 1 to 9	
	140	nn	901	LCD Terminal 9 Zone 1	T09:Z01
	140	nn	902	LCD Terminal 9 Zone 2	T09:Z02
	145	nn	903	LCD Terminal 9 Cabinet tamper	T09:S01
	120	nn	904	LCD Terminal 9 Panic	T09:S02
	420	nn	905	LCD Terminal 9 Door forced	T09:S03

	420	nn	906	LCD Terminal 9 Door open too long	T09:S04
	122	nn	907	LCD Terminal 9 Operator duress	T09:S05
	102	nn	908	LCD Terminal 9 Deadman	T09:S06
	421	nn	909	LCD Terminal 9 Too many tries	T09:S07
	143	nn	910	LCD Terminal 9 Lan comms status	T09:S08
	140	nn	121	Expander 1 Zone 1	B01:Z01
	140	nn	122	Expander 1 Zone 2	B01:Z02
			to	to	to
	140	nn	152	Expander 1 Zone 32	B01:Z32
	145	nn	153	Expander 1 cabinet tamper	B01:S01
	145	nn	154	Expander 1 internal siren tampers	B01:S02
	145	nn	155	Expander 1 external siren tampers	B01:S03
	301	nn	156	Expander 1 AC fail	B01:S04
	302	nn	157	Expander 1 Battery Low	B01:S05
	140	nn	158	Expander 1 Lan fuse tamper	B01:S06
	140	nn	159	Expander 1 Detector fuse tamper	B01:S07
	143	nn	160	Expander 1 Lan comms status	B01:S08
	309	nn	161	Expander 1 Battery test fail	B01:S09
	306	nn	162	Expander 1 spare	B01:S10
				From Zone Expander 1 to 9	
	140	nn	921	Expander 9 Zone 1	B09:Z01
	140	nn	922	Expander 9 Zone 2	B09:Z02
			to	to	to
	140	nn	952	Expander 9 Zone 32	B09:Z32
	145	nn	953	Expander 9 cabinet tamper	B09:S01
	145	nn	954	Expander 9 internal siren tampers	B09:S02
	145	nn	955	Expander 9 external siren tampers	B09:S03
	301	nn	956	Expander 9 AC fail	B09:S04
	302	nn	957	Expander 9 Battery Low	B09:S05
	140	nn	958	Expander 9 Lan fuse tamper	B09:S06
	140	nn	959	Expander 9 Detector fuse tamper	B09:S07
	143	nn	960	Expander 9 Lan comms status	B09:S08
	309	nn	961	Expander 9 Battery test fail	B09:S09
	306	nn	962	Expander 9 spare	B09:S10
	140	nn	121	Expander 1 Zone 1	E01:Z01
	140	nn	122	Expander 1 Zone 2	E01:Z02
			to	to	to
	140	nn	136	Expander 1 Zone 16	E01:Z16
	145	nn	137	Expander 1 cabinet tamper	E01:S01
	145	nn	138	Expander 1 internal siren tampers	E01:S02
	145	nn	139	Expander 1 external siren tampers	E01:S03
	301	nn	140	Expander 1 AC fail	E01:S04
	302	nn	141	Expander 1 Battery Low	E01:S05
	140	nn	142	Expander 1 Lan fuse tamper	E01:S06
	140	nn	143	Expander 1 Detector fuse tamper	E01:S07
	143	nn	144	Expander 1 Lan comms status	E01:S08
	309	nn	145	Expander 1 Battery test fail	E01:S09
	306	nn	146	Expander 1 spare	E01:S10
				From Zone Expander 1 to 9	
	140	nn	921	Expander 9 Zone 1	E09:Z01
	140	nn	922	Expander 9 Zone 2	E09:Z02
			to	to	to

	140	nn	936	Expander 9 Zone 16	E09:Z32
	145	nn	937	Expander 9 cabinet tamper	E09:S01
	145	nn	938	Expander 9 internal siren tampers	E09:S02
	145	nn	939	Expander 9 external siren tampers	E09:S03
	301	nn	940	Expander 9 AC fail	E09:S04
	302	nn	941	Expander 9 Battery Low	E09:S05
	140	nn	942	Expander 9 Lan fuse tamper	E09:S06
	140	nn	943	Expander 9 Detector fuse tamper	E09:S07
	143	nn	944	Expander 9 Lan comms status	E09:S08
	309	nn	945	Expander 9 Battery test fail	E09:S09
	306	nn	946	Expander 9 spare	E09:S10
	140	nn	121	Mini Expander 1 Zone 1	M01:Z01
	140	nn	122	Mini Expander 1 Zone 2	M01:Z02
			to	to	to
	140	nn	128	Mini Expander 1 Zone 8	M01:Z08
	302	nn	129	Mini Expander 1 Low Battery	M01:S01
	140	nn	130	Mini Expander 1 Zn1 Extra	M01:S02
	140	nn	131	Mini Expander 1 Zn2 Extra	M01:S03
	140	nn	132	Mini Expander 1 Zn3 Extra	M01:S04
	140	nn	133	Mini Expander 1 Zn4 Extra	M01:S05
	140	nn	134	Mini Expander 1 Zn5 Extra	M01:S06
	140	nn	135	Mini Expander 1 Zn6 Extra	M01:S07
	140	nn	136	Mini Expander 1 Zn7 Extra	M01:S08
	143	nn	137	Mini Expander 1 LAN Comms	M01:S09
	140	nn	921	Mini Expander 9 Zone 1	M09:Z01
	140	nn	922	Mini Expander 9 Zone 2	M09:Z02
			to	to	to
	140	nn	928	Mini Expander 9 Zone 8	M09:Z08
	302	nn	929	Mini Expander 9 Low Battery	M09:S01
	140	nn	930	Mini Expander 9 Zn1 Extra	M09:S02
	140	nn	931	Mini Expander 9 Zn2 Extra	M09:S03
	140	nn	932	Mini Expander 9 Zn3 Extra	M09:S04
	140	nn	933	Mini Expander 9 Zn4 Extra	M09:S05
	140	nn	934	Mini Expander 9 Zn5 Extra	M09:S06
	140	nn	935	Mini Expander 9 Zn6 Extra	M09:S07
	140	nn	936	Mini Expander 9 Zn7 Extra	M09:S08
	143	nn	937	Mini Expander 9 LAN Comms	M09:S09
	999	nn	99	All Analogue Module Inputs	Qnn:Znn
	140	nn	163	Reader Module 1 Zone 1 Door 1	R01:Z01
	140	nn	164	Reader Module 1 Zone 2 REX button	R01:Z02
	140	nn	165	Reader Module 1 Zone 3 REN button	R01:Z03
	140	nn	166	Reader Module 1 Zone 4 spare	R01:Z04
	140	nn	167	Reader Module 1 Zone 5	R01:Z05
	140	nn	168	Reader Module 1 Zone 6	R01:Z06
	140	nn	169	Reader Module 1 Zone 7	R01:Z07
	140	nn	170	Reader Module 1 Zone 8	R01:Z08
	145	nn	171	Reader Module 1 Cabinet tamper	R01:S01
	302	nn	172	Reader Module 1 Low voltage	R01:S02
	140	nn	173	Reader Module 1 Door 1 forced	R01:S03
	140	nn	174	Reader Module 1 Door 1 open too long	R01:S04
	140	nn	175	Reader Module 1 Door 2 forced	R01:S05
	140	nn	176	Reader Module 1 Door 2 open too long	R01:S06
	140	nn	177	Reader Module 1 Illegal card either	R01:S07
	143	nn	178	Reader Module 1 Lan comms status	R01:S08

				From reader module 1 to 9	
	140	nn	963	Reader Module 9 Zone 1 Door 1	R09:Z01
	140	nn	964	Reader Module 9 Zone 2 REX button	R09:Z02
	140	nn	965	Reader Module 9 Zone 3 REN button	R09:Z03
	140	nn	966	Reader Module 9 Zone 4 spare	R09:Z04
	140	nn	967	Reader Module 9 Zone 5	R09:Z05
	140	nn	968	Reader Module 9 Zone 6	R09:Z06
	140	nn	969	Reader Module 9 Zone 7	R09:Z07
	140	nn	970	Reader Module 9 Zone 8	R09:Z08
	145	nn	971	Reader Module 9 Cabinet tamper	R09:S01
	302	nn	972	Reader Module 9 Low voltage	R09:S02
	140	nn	973	Reader Module 9 Door 1 forced	R09:S03
	140	nn	974	Reader Module 9 Door 1 open too long	R09:S04
	140	nn	975	Reader Module 9 Door 2 forced	R09:S05
	140	nn	976	Reader Module 9 Door 2 open too long	R09:S06
	140	nn	977	Reader Module 9 Illegal card either	R09:S07
	143	nn	978	Reader Module 9 Lan comms status	R09:S08
	140	nn	179	SpreadNet 1 Zone 1	N01:Z01
	140	nn	180	SpreadNet 1 Zone 2	N01:Z02
			to	to	to
	140	nn	194	SpreadNet 1 Zone 16	N01:Z16
	353	nn	195	SpreadNet 1 Timeout	N01:S01
	356	nn	196	SpreadNet 1 Low Battery	N01:S02
	140	nn	197	SpreadNet 1 Spare	N01:S03
	140	nn	198	SpreadNet 1 Spare	N01:S04
				From SpreadNet Module 1 to 9	
	140	nn	979	SpreadNet 9 Zone 1	N01:Z01
	140	nn	980	SpreadNet 9 Zone 2	N01:Z02
			to	to	to
	140	nn	994	SpreadNet 9 Zone 16	N01:Z16
	353	nn	995	SpreadNet 9 Timeout	N01:S01
	356	nn	996	SpreadNet 9 Low Battery	N01:S02
	140	nn	997	SpreadNet 9 Spare	N01:S03
	140	nn	998	SpreadNet 9 Spare	N01:S04
	402	nn	001	Open/Close for Area nn - User 00001	na
			to	to	
	402	nn	900	Open/Close for Area nn - User 00900	na
	403	nn	901	Open/Close for System	na
	403	nn	902	Open/Close for Time Zone	na
	409	nn	903	Open/Close for Function Zone	na
	402	nn	999	Open/Close for Users > 00900	na
			00	General Area Open/Close	na
		01 - 98	01 to 98	Area 001-098 Open/Close	na
		99 - 250	99	Areas > 99 (99 to 250)	na
"nn" = Area Number					

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**Contact ID
Map-1 Mapping Tables**

CONTACT ID Map 1 MAPPING					
Account No.	Event Code	Area No.	POINT	Description	Panel Input
V3.5					
	140	nn	001	Controller zone 1	C01:Z01
	140	nn	002	Controller zone 2	C01:Z02
			to	to	"
	140	nn	016	Controller zone 16	C01:Z16
	145	nn	017	Controller cabinet tamper	C01:S01
	145	nn	018	Controller internal siren tamper	C01:S02
	145	nn	019	Controller external siren tamper	C01:S03
	301	nn	020	Controller AC fail	C01:S04
	302	nn	021	Controller Low Battery	C01:S05
	140	nn	022	Controller Lan fuse tamper	C01:S06
	140	nn	023	Controller Detector fuse tamper	C01:S07
	143	nn	024	Controller Lan comms	C01:S08
	309	nn	025	Controller Battery test fail	C01:S09
	306	nn	026	Controller Checksum alteration	C01:S10
	305	nn	027	Controller system power on reset	C01:S11
	351	nn	028	Controller Phone line fault	C01:S12
	330	nn	029	Uart 1 fault	C01:S13
	330	nn	030	Uart 2 fault	C01:S14
	330	nn	031	Uart 3 fault	C01:S15
	330	nn	032	Uart 4 fault	C01:S16
	307	nn	033	Controller Self test fail	C01:S17
	602	nn	034	Controller Time report	C01:S18
	601	nn	035	Controller manual test report	C01:S19
	350	nn	036	Controller Comms backup	C01:S20
	354	nn	037	Controller Comms fail	C01:S21
	351	nn	038	Controller Phone	C01:S22
	140	nn	039	Controller Module substitution	C01:S23
	140	nn	040	PreArm1 Test Pass	C01:S24
	140	nn	041	PreArm1 Test Fail	C01:S25
	140	nn	042	PreArm2 Test Pass	C01:S26
	140	nn	043	PreArm2 Test Fail	C01:S27
	140	nn	044	Controller Request Service	C01:S28
	140	nn	045	Controller Intelligent Reader Problem	C01:S29
	140	nn	046	Controller System input 46	C01:S30
	140	nn	047	Controller System input 47	C01:S31
	140	nn	048	Controller System input 48	C01:S32
		nn	99	Unmappable event	
	140	nn	101	LCD Terminal 1 Zone 1	T01:Z01
	140	nn	102	LCD Terminal 1 Zone 2	T01:Z02
	145	nn	103	LCD Terminal 1 Cabinet tamper	T01:S01
	120	nn	104	LCD Terminal 1 Panic	T01:S02
	420	nn	105	LCD Terminal 1 Door forced	T01:S03
	420	nn	106	LCD Terminal 1 Door Held	T01:S04
	122	nn	107	LCD Terminal 1 Operator duress	T01:S05
	102	nn	108	LCD Terminal 1 Deadman	T01:S06
	421	nn	109	LCD Terminal 1 Too many tries	T01:S07
	143	nn	110	LCD Terminal 1 Lan comms status	T01:S08
				From LCD Terminal Number 1 to 9	
	140	nn	901	LCD Terminal 9 Zone 1	T09:Z01
	140	nn	902	LCD Terminal 9 Zone 2	T09:Z02
	145	nn	903	LCD Terminal 9 Cabinet tamper	T09:S01

	120	nn	904	LCD Terminal 9 Panic	T09:S02
	420	nn	905	LCD Terminal 9 Door forced	T09:S03
	420	nn	906	LCD Terminal 9 Door Held	T09:S04
	122	nn	907	LCD Terminal 9 Operator duress	T09:S05
	102	nn	908	LCD Terminal 9 Deadman	T09:S06
	421	nn	909	LCD Terminal 9 Too many tries	T09:S07
	143	nn	910	LCD Terminal 9 Lan comms status	T09:S08
	140	nn	111	Expander 1 Zone 1	B01:Z01
	140	nn	112	Expander 1 Zone 2	B01:Z02
			to	to	to
	140	nn	126	Expander 1 Zone 16	B01:Z16
	140	nn	99	Expander 1 Zone 17	B01:Z17
			to	to	to
	140	nn	99	Expander 1 Zone 32	B01:Z32
	145	nn	127	Expander 1 cabinet tamper	B01:S01
	145	nn	128	Expander 1 internal siren tampers	B01:S02
	145	nn	129	Expander 1 external siren tampers	B01:S03
	301	nn	130	Expander 1 AC fail	B01:S04
	302	nn	131	Expander 1 Battery Low	B01:S05
	140	nn	132	Expander 1 Lan fuse tamper	B01:S06
	140	nn	133	Expander 1 Detector fuse tamper	B01:S07
	143	nn	134	Expander 1 Lan comms status	B01:S08
	309	nn	135	Expander 1 Battery test fail	B01:S09
	306	nn	136	Expander 1 spare	B01:S10
				From Zone Expander 1 to 18	
	140	nn	937	Expander 18 Zone 1	B18:Z01
	140	nn	938	Expander 18 Zone 2	B18:Z02
			to	to	to
	140	nn	952	Expander 18 Zone 16	B18:Z16
	140	nn	99	Expander 18 Zone 17	B18:Z17
			to	to	to
	140	nn	99	Expander 18 Zone 32	B18:Z32
	145	nn	953	Expander 18 cabinet tamper	B18:S01
	145	nn	954	Expander 18 internal siren tampers	B18:S02
	145	nn	955	Expander 18 external siren tampers	B18:S03
	301	nn	956	Expander 18 AC fail	B18:S04
	302	nn	957	Expander 18 Battery Low	B18:S05
	140	nn	958	Expander 18 Lan fuse tamper	B18:S06
	140	nn	959	Expander 18 Detector fuse tamper	B18:S07
	143	nn	960	Expander 18 Lan comms status	B18:S08
	309	nn	961	Expander 18 Battery test fail	B18:S09
	306	nn	962	Expander 18 spare	B18:S10
	140	nn	111	Expander 1 Zone 1	E01:Z01
	140	nn	112	Expander 1 Zone 2	E01:Z02
			to	to	to
	140	nn	126	Expander 1 Zone 16	E01:Z16
	145	nn	127	Expander 1 cabinet tamper	E01:S01
	145	nn	128	Expander 1 internal siren tampers	E01:S02
	145	nn	129	Expander 1 external siren tampers	E01:S03
	301	nn	130	Expander 1 AC fail	E01:S04
	302	nn	131	Expander 1 Battery Low	E01:S05
	140	nn	132	Expander 1 Lan fuse tamper	E01:S06
	140	nn	133	Expander 1 Detector fuse tamper	E01:S07
	143	nn	134	Expander 1 Lan comms status	E01:S08

	309	nn	135	Expander 1 Battery test fail	E01:S09
	306	nn	136	Expander 1 spare	E01:S10
				From Zone Expander 1 to 9	
	140	nn	911	Expander 9 Zone 1	E09:Z01
	140	nn	912	Expander 9 Zone 2	E09:Z02
			to	to	to
	140	nn	926	Expander 9 Zone 16	E09:Z16
	145	nn	927	Expander 9 cabinet tamper	E09:S01
	145	nn	928	Expander 9 internal siren tampers	E09:S02
	145	nn	929	Expander 9 external siren tampers	E09:S03
	301	nn	930	Expander 9 AC fail	E09:S04
	302	nn	931	Expander 9 Battery Low	E09:S05
	140	nn	932	Expander 9 Lan fuse tamper	E09:S06
	140	nn	933	Expander 9 Detector fuse tamper	E09:S07
	143	nn	934	Expander 9 Lan comms status	E09:S08
	309	nn	935	Expander 9 Battery test fail	E09:S09
	306	nn	936	Expander 9 Spare	E09:S10
			99	From Expander 10 to 18 zones 1 to 16	Enn:Znn
	140	nn	111	Mini Expander 1 Zone 1	M01:Z01
	140	nn	112	Mini Expander 1 Zone 2	M01:Z02
			to	to	to
	140	nn	118	Mini Expander 1 Zone 8	M01:Z08
	302	nn	127	Mini Expander 1 Low Battery	M01:S01
	140	nn	128	Mini Expander 1 Zn1 Extra	M01:S02
	140	nn	129	Mini Expander 1 Zn2 Extra	M01:S03
	140	nn	130	Mini Expander 1 Zn3 Extra	M01:S04
	140	nn	131	Mini Expander 1 Zn4 Extra	M01:S05
	140	nn	132	Mini Expander 1 Zn5 Extra	M01:S06
	140	nn	133	Mini Expander 1 Zn6 Extra	M01:S07
	140	nn	134	Mini Expander 1 Zn7 Extra	M01:S08
	143	nn	135	Mini Expander 1 LAN Comms	M01:S09
				From Zone Expander 1 to 9	
	140	nn	911	Mini Expander 9 Zone 1	M09:Z01
	140	nn	912	Mini Expander 9 Zone 2	M09:Z02
			to	to	to
	140	nn	918	Mini Expander 9 Zone 8	M09:Z08
	302	nn	927	Mini Expander 9 Low Battery	M09:S01
	140	nn	928	Mini Expander 9 Zn1 Extra	M09:S02
	140	nn	929	Mini Expander 9 Zn2 Extra	M09:S03
	140	nn	930	Mini Expander 9 Zn3 Extra	M09:S04
	140	nn	931	Mini Expander 9 Zn4 Extra	M09:S05
	140	nn	932	Mini Expander 9 Zn5 Extra	M09:S06
	140	nn	933	Mini Expander 9 Zn6 Extra	M09:S07
	140	nn	934	Mini Expander 9 Zn7 Extra	M09:S08
	143	nn	935	Mini Expander 9 LAN Comms	M09:S09
			99	Mini Expander 10 to 18 zones 1 to 8	Mnn:Znn
	140	nn	99	All Analogue Module Inputs	Qnn:Znn

	140	nn	163	Reader Module 1 Zone 1 Door 1	R01:Z01
	140	nn	164	Reader Module 1 Zone 2 REX Button	R01:Z02
	140	nn	165	Reader Module 1 Zone 3 REX Button	R01:Z03
	140	nn	166	Reader Module 1 Zone 4 Spare	R01:Z04
	140	nn	167	Reader Module 1 Zone 5	R01:Z05
	140	nn	168	Reader Module 1 Zone 6	R01:Z06
	140	nn	169	Reader Module 1 Zone 7	R01:Z07
	140	nn	170	Reader Module 1 Zone 8	R01:Z08
	145	nn	171	Reader Module 1 Cabinet Tamper	R01:S01
	302	nn	172	Reader Module 1 Low Battery	R01:S02
	140	nn	173	Reader Module 1 Door 1 Force	R01:S03
	140	nn	174	Reader Module 1 Door 1 Held	R01:S04
	140	nn	175	Reader Module 1 Door 2 Force	R01:S05
	140	nn	176	Reader Module 1 Door 2 Held	R01:S06
	140	nn	177	Reader Module 1 Illegal Card	R01:S07
	143	nn	178	Reader Module 1 Lan Comms Fail	R01:S08
				From Reader 1 to Reader 9	
	140	nn	963	Reader Module 9 Zone 1 Door 1	R09:Z01
	140	nn	964	Reader Module 9 Zone 2 REX Button	R09:Z02
	140	nn	965	Reader Module 9 Zone 3 REX Button	R09:Z03
	140	nn	966	Reader Module 9 Zone 4 Spare	R09:Z04
	140	nn	967	Reader Module 9 Zone 5	R09:Z05
	140	nn	968	Reader Module 9 Zone 6	R09:Z06
	140	nn	969	Reader Module 9 Zone 7	R09:Z07
	140	nn	970	Reader Module 9 Zone 8	R09:Z08
	145	nn	971	Reader Module 9 Cabinet Tamper	R09:S01
	302	nn	972	Reader Module 9 Low Battery	R09:S02
	140	nn	973	Reader Module 9 Door 1 Force	R09:S03
	140	nn	974	Reader Module 9 Door 1 Held	R09:S04
	140	nn	975	Reader Module 9 Door 2 Force	R09:S05
	140	nn	976	Reader Module 9 Door 2 Held	R09:S06
	140	nn	977	Reader Module 9 Illegal Card	R09:S07
	143	nn	978	Reader Module 9 Lan Comms Fail	R09:S08
	140	nn	179	SpreadNet 1 Zone 1	N01:Z01
	140	nn	180	SpreadNet 1 Zone 2	N01:Z02
			to	to	to
	140	nn	194	SpreadNet 1 Zone 16	N01:Z16
	353	nn	195	SpreadNet 1 Timeout	N01:S01
	356	nn	196	SpreadNet 1 Low Battery	N01:S02
	140	nn	197	SpreadNet 1 Spare	N01:S03
	140	nn	198	SpreadNet 1 Spare	N01:S04
				From SpreadNet Module 1 to 9	
	140	nn	979	SpreadNet 9 Zone 1	N9:Z01
	140	nn	980	SpreadNet 13 Zone 2	N9:Z02
			to	to	to
	140	nn	994	SpreadNet 13 Zone 16	N13:Z16
	353	nn	995	SpreadNet 13 Timeout	N13:S01
	356	nn	996	SpreadNet 13 Low Battery	N13:S02
	140	nn	997	SpreadNet 13 Spare	N13:S03
	140	nn	998	SpreadNet 13 Spare	N13:S04
	402	nn	001	Open/Close for Area nn - User 00001	na

			to	to	
	402	nn	900	Open/Close for Area nn - User 00900	na
	403	nn	901	Open/Close for System	na
	403	nn	902	Open/Close for Time Zone	na
	409	nn	903	Open/Close for Function Zone	na
	402	nn	999	Open/Close for Users > 00900	na
			00	General Area Open/Close	na
		01 - 98	01 to 98	Area 001-098 Open/Close	na
		99 - 250	99	Areas > 99 (99 to 250)	na
				"nn" = Area Number, "na"=not applicable	

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**Contact ID
School 30 Mapping Tables**

CONTACT ID SCHOOL 30 MAPPING					
Account No.	Event Code	Area No.	POINT	Description	Panel Input
	140	nn	001	Controller zone 1	C01:Z01
	140	nn	002	Controller zone 2	C01:Z02
			to	to	"
	140	nn	016	Controller zone 16	C01:Z16
	145	nn	017	Controller cabinet tamper	C01:S01
	145	nn	018	Controller internal siren tamper	C01:S02
	145	nn	019	Controller external siren tamper	C01:S03
	301	nn	020	Controller AC fail	C01:S04
	302	nn	021	Controller Low Battery	C01:S05
	140	nn	022	Controller Lan fuse tamper	C01:S06
	140	nn	023	Controller Detector fuse tamper	C01:S07
	143	nn	024	Controller Lan comms	C01:S08
	309	nn	025	Controller Battery test fail	C01:S09
	306	nn	026	Controller Checksum alteration	C01:S10
	305	nn	027	Controller system power on reset	C01:S11
	351	nn	028	Controller Phone line fault	C01:S12
	330	nn	029	Uart 1 fault	C01:S13
	330	nn	030	Uart 2 fault	C01:S14
	330	nn	031	Uart 3 fault	C01:S15
	330	nn	032	Uart 4 fault	C01:S16
	307	nn	033	Controller Self test fail	C01:S17
	602	nn	034	Controller Time report	C01:S18
	601	nn	035	Controller manual test report	C01:S19
	350	nn	036	Controller Comms backup	C01:S20
	354	nn	037	Controller Comms fail	C01:S21
	351	nn	038	Controller Phone	C01:S22
	140	nn	039	Controller Module substitution	C01:S23
	140	nn	040	PreArm1 Test Pass	C01:S24
	140	nn	041	PreArm1 Test Fail	C01:S25
	140	nn	042	PreArm2 Test Pass	C01:S26
	140	nn	043	PreArm2 Test Fail	C01:S27
	140	nn	044	Controller Request Service	C01:S28
	140	nn	045	Controller Intelligent Reader Problem	C01:S29
	140	nn	046	Controller System input 46	C01:S30
	140	nn	047	Controller System input 47	C01:S31
	140	nn	048	Controller System input 48	C01:S32
		nn	99	Unmappable event	
	140	nn	100	LCD Terminal 1 Zone 1	T01:Z01
	140	nn	101	LCD Terminal 1 Zone 2	T01:Z02
	145	nn	102	LCD Terminal 1 Cabinet tamper	T01:S01
	120	nn	103	LCD Terminal 1 Panic	T01:S02
	420	nn	104	LCD Terminal 1 Door forced	T01:S03
	420	nn	105	LCD Terminal 1 Door Held	T01:S04
	122	nn	106	LCD Terminal 1 Operator duress	T01:S05
	102	nn	107	LCD Terminal 1 Deadman	T01:S06
	421	nn	108	LCD Terminal 1 Too many tries	T01:S07
	143	nn	109	LCD Terminal 1 Lan comms status	T01:S08
				From LCD Terminal Number 1 to 10	
	140	nn	190	LCD Terminal 10 Zone 1	T10:Z01
	140	nn	191	LCD Terminal 10 Zone 2	T10:Z01
	145	nn	192	LCD Terminal 10 Cabinet tamper	T10:S01

	120	nn	193	LCD Terminal 10 Panic	T10:S02
	420	nn	194	LCD Terminal 10 Door forced	T10:S03
	420	nn	195	LCD Terminal 10 Door Held	T10:S04
	122	nn	196	LCD Terminal 10 Operator duress	T10:S05
	102	nn	197	LCD Terminal 10 Deadman	T10:S06
	421	nn	198	LCD Terminal 10 Too many tries	T10:S07
	143	nn	199	LCD Terminal 10 Lan comms status	T10:S08
	140	nn	200	Expander 1 Zone 1	B01:Z01
	140	nn	201	Expander 1 Zone 2	B01:Z02
			to	to	to
	140	nn	215	Expander 1 Zone 16	B01:Z16
	140	nn	99	Expander 1 Zone 17	B01:Z17
			to	to	to
	140	nn	99	Expander 1 Zone 32	B01:Z32
	145	nn	216	Expander 1 cabinet tamper	B01:S01
	145	nn	217	Expander 1 internal siren tampers	B01:S02
	145	nn	218	Expander 1 external siren tampers	B01:S03
	301	nn	219	Expander 1 AC fail	B01:S04
	302	nn	220	Expander 1 Battery Low	B01:S05
	140	nn	221	Expander 1 Lan fuse tamper	B01:S06
	140	nn	222	Expander 1 Detector fuse tamper	B01:S07
	143	nn	223	Expander 1 Lan comms status	B01:S08
	309	nn	224	Expander 1 Battery test fail	B01:S09
	306	nn	225	Expander 1 spare	B01:S10
				From Zone Expander 1 to 30	
	140	nn	954	Expander 30 Zone 1	B30:Z01
	140	nn	955	Expander 30 Zone 2	B30:Z02
			to	to	to
	140	nn	969	Expander 30 Zone 16	B30:Z16
	140	nn	99	Expander 30 Zone 17	B30:Z17
			to	to	to
	140	nn	99	Expander 30 Zone 32	B30:Z32
	145	nn	970	Expander 30 cabinet tamper	B30:S01
	145	nn	971	Expander 30 internal siren tampers	B30:S02
	145	nn	972	Expander 30 external siren tampers	B30:S03
	301	nn	973	Expander 30 AC fail	B30:S04
	302	nn	974	Expander 30 Battery Low	B30:S05
	140	nn	975	Expander 30 Lan fuse tamper	B30:S06
	140	nn	976	Expander 30 Detector fuse tamper	B30:S07
	143	nn	977	Expander 30 Lan comms status	B30:S08
	309	nn	978	Expander 30 Battery test fail	B30:S09
	306	nn	979	Expander 30 spare	B30:S10
	140	nn	200	Expander 1 Zone 1	E01:Z01
	140	nn	201	Expander 1 Zone 2	E01:Z02
			to	to	to
	140	nn	215	Expander 1 Zone 16	E01:Z16
	145	nn	216	Expander 1 cabinet tamper	E01:S01
	145	nn	217	Expander 1 internal siren tampers	E01:S02
	145	nn	218	Expander 1 external siren tampers	E01:S03
	301	nn	219	Expander 1 AC fail	E01:S04
	302	nn	220	Expander 1 Battery Low	E01:S05
	140	nn	221	Expander 1 Lan fuse tamper	E01:S06
	140	nn	222	Expander 1 Detector fuse tamper	E01:S07
	143	nn	223	Expander 1 Lan comms status	E01:S08

	309	nn	224	Expander 1 Battery test fail	E01:S09
	306	nn	225	Expander 1 spare	E01:S10
				From Zone Expander 1 to 30	
	140	nn	954	Expander 30 Zone 1	E30:Z01
	140	nn	955	Expander 30 Zone 2	E30:Z02
			to	to	to
	140	nn	969	Expander 30 Zone 16	E30:Z32
	145	nn	970	Expander 30 cabinet tamper	E30:S01
	145	nn	971	Expander 30 internal siren tampers	E30:S02
	145	nn	972	Expander 30 external siren tampers	E30:S03
	301	nn	973	Expander 30 AC fail	E30:S04
	302	nn	974	Expander 30 Battery Low	E30:S05
	140	nn	975	Expander 30 Lan fuse tamper	E30:S06
	140	nn	976	Expander 30 Detector fuse tamper	E30:S07
	143	nn	977	Expander 30 Lan comms status	E30:S08
	309	nn	978	Expander 30 Battery test fail	E30:S09
	306	nn	979	Expander 30 Spare	E30:S10
	140	nn	200	Mini Expander 1 Zone 1	M01:Z01
	140	nn	201	Mini Expander 1 Zone 2	M01:Z02
			to	to	to
	140	nn	207	Mini Expander 1 Zone 8	M01:Z08
	302	nn	208	Mini Expander 1 Low Battery	M01:S01
	140	nn	209	Mini Expander 1 Zn1 Extra	M01:S02
	140	nn	210	Mini Expander 1 Zn2 Extra	M01:S03
	140	nn	211	Mini Expander 1 Zn3 Extra	M01:S04
	140	nn	212	Mini Expander 1 Zn4 Extra	M01:S05
	140	nn	213	Mini Expander 1 Zn5 Extra	M01:S06
	140	nn	214	Mini Expander 1 Zn6 Extra	M01:S07
	140	nn	215	Mini Expander 1 Zn7 Extra	M01:S08
	143	nn	216	Mini Expander 1 LAN Comms	M01:S09
				From Mini Expander 1 to 30	
	140	nn	954	Mini Expander 30 Zone 1	M30:Z01
	140	nn	955	Mini Expander 30 Zone 2	M30:Z02
			to	to	to
	140	nn	961	Mini Expander 30 Zone 8	M30:Z08
	302	nn	962	Mini Expander 30 Low Battery	M30:S01
	140	nn	963	Mini Expander 30 Zn1 Extra	M30:S02
	140	nn	964	Mini Expander 30 Zn2 Extra	M30:S03
	140	nn	965	Mini Expander 30 Zn3 Extra	M30:S04
	140	nn	966	Mini Expander 30 Zn4 Extra	M30:S05
	140	nn	967	Mini Expander 30 Zn5 Extra	M30:S06
	140	nn	968	Mini Expander 30 Zn6 Extra	M30:S07
	140	nn	969	Mini Expander 30 Zn7 Extra	M30:S08
	143	nn	970	Mini Expander 30 LAN Comms	M30:S09
	140	nn	99	All Analogue Module Inputs	Qnn:Znn
	140	nn	99	All Reader Module Inputs	Rnn:Znn
	140	nn	200	SpreadNet 1 Zone 1	N01:Z01
	140	nn	201	SpreadNet 1 Zone 2	N01:Z02
			to	to	to
	140	nn	215	SpreadNet 1 Zone 16	N01:Z16

	353	nn	216	SpreadNet 1 Timeout	N01:S01
	356	nn	217	SpreadNet 1 Low Battery	N01:S02
	140	nn	218	SpreadNet 1 Spare	N01:S03
	140	nn	219	SpreadNet 1 Spare	N01:S04
				From SpreadNet Module 1 to 13	
	140	nn	512	SpreadNet 13 Zone 1	N13:Z01
	140	nn	513	SpreadNet 13 Zone 2	N13:Z02
			to	to	to
	140	nn	527	SpreadNet 13 Zone 16	N13:Z16
	353	nn	528	SpreadNet 13 Timeout	N13:S01
	356	nn	529	SpreadNet 13 Low Battery	N13:S02
	140	nn	530	SpreadNet 13 Spare	N13:S03
	140	nn	531	SpreadNet 13 Spare	N13:S04
	402	nn	001	Open/Close for Area nn - User 00001	na
			to	to	
	402	nn	900	Open/Close for Area nn - User 00900	na
	403	nn	901	Open/Close for System	na
	403	nn	902	Open/Close for Time Zone	na
	409	nn	903	Open/Close for Function Zone	na
	402	nn	999	Open/Close for Users > 00900	na
			00	General Area Open/Close	na
		01 - 98	01 to 98	Area 001-098 Open/Close	na
		99 - 250	99	Areas > 99 (99 to 250)	na
"nn" = Area Number, "na"=not applicable					

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**Contact ID
School 19 Mapping Tables**

CONTACT ID SCHOOL 19 MAPPING					
Account No.	Event Code	Area No.	POINT	Description	Panel Input
	140	nn	001	Controller zone 1	C01:Z01
	140	nn	002	Controller zone 2	C01:Z02
			to	to	"
	140	nn	016	Controller zone 16	C01:Z16
	145	nn	017	Controller cabinet tamper	C01:S01
	145	nn	018	Controller internal siren tamper	C01:S02
	145	nn	019	Controller external siren tamper	C01:S03
	301	nn	020	Controller AC fail	C01:S04
	302	nn	021	Controller Low Battery	C01:S05
	140	nn	022	Controller Lan fuse tamper	C01:S06
	140	nn	023	Controller Detector fuse tamper	C01:S07
	143	nn	024	Controller Lan comms	C01:S08
	309	nn	025	Controller Battery test fail	C01:S09
	306	nn	026	Controller Checksum alteration	C01:S10
	305	nn	027	Controller system power on reset	C01:S11
	351	nn	028	Controller Phone line fault	C01:S12
	330	nn	029	Uart 1 fault	C01:S13
	330	nn	030	Uart 2 fault	C01:S14
	330	nn	031	Uart 3 fault	C01:S15
	330	nn	032	Uart 4 fault	C01:S16
	307	nn	033	Controller Self test fail	C01:S17
	602	nn	034	Controller Time report	C01:S18
	601	nn	035	Controller manual test report	C01:S19
	350	nn	036	Controller Comms backup	C01:S20
	354	nn	037	Controller Comms fail	C01:S21
	351	nn	038	Controller Phone	C01:S22
	140	nn	039	Controller Module substitution	C01:S23
	140	nn	040	PreArm1 Test Pass	C01:S24
	140	nn	041	PreArm1 Test Fail	C01:S25
	140	nn	042	PreArm2 Test Pass	C01:S26
	140	nn	043	PreArm2 Test Fail	C01:S27
	140	nn	044	Controller Request Service	C01:S28
	140	nn	045	Controller Intelligent Reader Problem	C01:S29
	140	nn	046	Controller System input 46	C01:S30
	140	nn	047	Controller System input 47	C01:S31
	140	nn	048	Controller System input 48	C01:S32
		nn	99	Unmappable event	
	140	nn	100	LCD Terminal 1 Zone 1	T01:Z01
	140	nn	101	LCD Terminal 1 Zone 2	T01:Z02
	145	nn	102	LCD Terminal 1 Cabinet tamper	T01:S01
	120	nn	103	LCD Terminal 1 Panic	T01:S02
	420	nn	104	LCD Terminal 1 Door forced	T01:S03
	420	nn	105	LCD Terminal 1 Door Held	T01:S04
	122	nn	106	LCD Terminal 1 Operator duress	T01:S05
	102	nn	107	LCD Terminal 1 Deadman	T01:S06
	421	nn	108	LCD Terminal 1 Too many tries	T01:S07
	143	nn	109	LCD Terminal 1 Lan comms status	T01:S08
				From LCD Terminal Number 1 to 10	
	140	nn	190	LCD Terminal 10 Zone 1	T10:Z01
	140	nn	191	LCD Terminal 10 Zone 2	T10:Z01
	145	nn	192	LCD Terminal 10 Cabinet tamper	T10:S01

	120	nn	193	LCD Terminal 10 Panic	T10:S02
	420	nn	194	LCD Terminal 10 Door forced	T10:S03
	420	nn	195	LCD Terminal 10 Door Held	T10:S04
	122	nn	196	LCD Terminal 10 Operator duress	T10:S05
	102	nn	197	LCD Terminal 10 Deadman	T10:S06
	421	nn	198	LCD Terminal 10 Too many tries	T10:S07
	143	nn	199	LCD Terminal 10 Lan comms status	T10:S08
	140	nn	200	Expander 1 Zone 1	B01:Z01
	140	nn	201	Expander 1 Zone 2	B01:Z02
			to	to	to
	140	nn	231	Expander 1 Zone 32	B01:Z32
	145	nn	232	Expander 1 cabinet tamper	B01:S01
	145	nn	233	Expander 1 internal siren tampers	B01:S02
	145	nn	234	Expander 1 external siren tampers	B01:S03
	301	nn	235	Expander 1 AC fail	B01:S04
	302	nn	236	Expander 1 Battery Low	B01:S05
	140	nn	237	Expander 1 Lan fuse tamper	B01:S06
	140	nn	238	Expander 1 Detector fuse tamper	B01:S07
	143	nn	239	Expander 1 Lan comms status	B01:S08
	309	nn	240	Expander 1 Battery test fail	B01:S09
	306	nn	241	Expander 1 Spare	B01:S10
				From Zone Expander 1 to 19	
	140	nn	956	Expander 19 Zone 1	B19:Z01
	140	nn	957	Expander 19 Zone 2	B19:Z02
			to	to	to
	140	nn	987	Expander 19 Zone 32	B19:Z32
	145	nn	988	Expander 19 cabinet tamper	B19:S01
	145	nn	989	Expander 19 internal siren tampers	B19:S02
	145	nn	990	Expander 19 external siren tampers	B19:S03
	301	nn	991	Expander 19 AC fail	B19:S04
	302	nn	992	Expander 19 Battery Low	B19:S05
	140	nn	993	Expander 19 Lan fuse tamper	B19:S06
	140	nn	994	Expander 19 Detector fuse tamper	B19:S07
	143	nn	995	Expander 19 Lan comms status	B19:S08
	309	nn	996	Expander 19 Battery test fail	B19:S09
	306	nn	997	Expander 19 Spare	B19:S10
	140	nn	200	Expander 1 Zone 1	E01:Z01
	140	nn	201	Expander 1 Zone 2	E01:Z02
			to	to	to
	140	nn	215	Expander 1 Zone 16	E01:Z16
	145	nn	232	Expander 1 cabinet tamper	E01:S01
	145	nn	233	Expander 1 internal siren tampers	E01:S02
	145	nn	234	Expander 1 external siren tampers	E01:S03
	301	nn	235	Expander 1 AC fail	E01:S04
	302	nn	236	Expander 1 Battery Low	E01:S05
	140	nn	237	Expander 1 Lan fuse tamper	E01:S06
	140	nn	238	Expander 1 Detector fuse tamper	E01:S07
	143	nn	239	Expander 1 Lan comms status	E01:S08
	309	nn	240	Expander 1 Battery test fail	E01:S09
	306	nn	241	Expander 1 spare	E01:S10
				From Zone Expander 1 to 19	
	140	nn	956	Expander 19 Zone 1	E19:Z01

	140	nn	957	Expander 19 Zone 2	E19:Z02
			to	to	to
	140	nn	971	Expander 19 Zone 16	E19:Z32
	145	nn	988	Expander 19 cabinet tamper	E19:S01
	145	nn	989	Expander 19 internal siren tampers	E19:S02
	145	nn	990	Expander 19 external siren tampers	E19:S03
	301	nn	991	Expander 19 AC fail	E19:S04
	302	nn	992	Expander 19 Battery Low	E19:S05
	140	nn	993	Expander 19 Lan fuse tamper	E19:S06
	140	nn	994	Expander 19 Detector fuse tamper	E19:S07
	143	nn	995	Expander 19 Lan comms status	E19:S08
	309	nn	996	Expander 19 Battery test fail	E19:S09
	306	nn	997	Expander 19 spare	E19:S10
	140	nn	200	Mini Expander 1 Zone 1	M01:Z01
	140	nn	201	Mini Expander 1 Zone 2	M01:Z02
			to	to	to
	140	nn	207	Mini Expander 1 Zone 8	M01:Z08
	302	nn	208	Mini Expander 1 Low Battery	M01:S01
	140	nn	209	Mini Expander 1 Zn1 Extra	M01:S02
	140	nn	210	Mini Expander 1 Zn2 Extra	M01:S03
	140	nn	211	Mini Expander 1 Zn3 Extra	M01:S04
	140	nn	212	Mini Expander 1 Zn4 Extra	M01:S05
	140	nn	213	Mini Expander 1 Zn5 Extra	M01:S06
	140	nn	214	Mini Expander 1 Zn6 Extra	M01:S07
	140	nn	215	Mini Expander 1 Zn7 Extra	M01:S08
	143	nn	216	Mini Expander 1 LAN Comms	M01:S09
				From Mini Expander 1 to 19	
	140	nn	956	Mini Expander 19 Zone 1	M19:Z01
	140	nn	957	Mini Expander 19 Zone 2	M19:Z02
			to	to	to
	140	nn	963	Mini Expander 19 Zone 8	M19:Z08
	302	nn	964	Mini Expander 19 Low Battery	M19:S01
	140	nn	965	Mini Expander 19 Zn1 Extra	M19:S02
	140	nn	966	Mini Expander 19 Zn2 Extra	M19:S03
	140	nn	967	Mini Expander 19 Zn3 Extra	M19:S04
	140	nn	968	Mini Expander 19 Zn4 Extra	M19:S05
	140	nn	969	Mini Expander 19 Zn5 Extra	M19:S06
	140	nn	970	Mini Expander 19 Zn6 Extra	M19:S07
	140	nn	971	Mini Expander 19 Zn7 Extra	M19:S08
	143	nn	972	Mini Expander 19 LAN Comms	M19:S09
	140	nn	99	All Analogue Module Inputs	Qnn:Znn
	140	nn	99	All Reader Module Inputs	R01:Z01
	140	nn	200	SpreadNet 1 Zone 1	N01:Z01
	140	nn	201	SpreadNet 1 Zone 2	N01:Z02
			to	to	to
	140	nn	215	SpreadNet 1 Zone 16	N01:Z16
	353	nn	216	SpreadNet 1 Timeout	N01:S01
	356	nn	217	SpreadNet 1 Low Battery	N01:S02
	140	nn	218	SpreadNet 1 Spare	N01:S03
	140	nn	219	SpreadNet 1 Spare	N01:S04
				From SpreadNet Module 1 to 13	

	140	nn	704	SpreadNet 13 Zone 1	N13:Z01
	140	nn	705	SpreadNet 13 Zone 2	N13:Z02
			to	to	to
	140	nn	719	SpreadNet 13 Zone 16	N13:Z16
	353	nn	720	SpreadNet 13 Timeout	N13:S01
	356	nn	721	SpreadNet 13 Low Battery	N13:S02
	140	nn	722	SpreadNet 13 Spare	N13:S03
	140	nn	723	SpreadNet 13 Spare	N13:S04
	402	nn	001	Open/Close for Area nn - User 00001	na
			to	to	
	402	nn	900	Open/Close for Area nn - User 00900	na
	403	nn	901	Open/Close for System	na
	403	nn	902	Open/Close for Time Zone	na
	409	nn	903	Open/Close for Function Zone	na
	402	nn	999	Open/Close for Users > 00900	na
			00	General Area Open/Close	na
		01 - 98	01 to 98	Area 001-098 Open/Close	na
		99 - 250	99	Areas > 99 (99 to 250)	na
"nn" = Area Number, "na"=not applicable					

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**Contact ID
School 19B Mapping Tables**

CONTACT ID SCHOOL 19B MAPPING					
Account No.	Event Code	Area No.	POINT	Description	Panel Input
	140	nn	001	Controller zone 1	C01:Z01
	140	nn	002	Controller zone 2	C01:Z02
			to	to	"
	140	nn	016	Controller zone 16	C01:Z16
	145	nn	017	Controller cabinet tamper	C01:S01
	145	nn	018	Controller internal siren tamper	C01:S02
	145	nn	019	Controller external siren tamper	C01:S03
	301	nn	020	Controller AC fail	C01:S04
	302	nn	021	Controller Low Battery	C01:S05
	140	nn	022	Controller Lan fuse tamper	C01:S06
	140	nn	023	Controller Detector fuse tamper	C01:S07
	143	nn	024	Controller Lan comms	C01:S08
	309	nn	025	Controller Battery test fail	C01:S09
	306	nn	026	Controller Checksum alteration	C01:S10
	305	nn	027	Controller system power on reset	C01:S11
	351	nn	028	Controller Phone line fault	C01:S12
	330	nn	029	Uart 1 fault	C01:S13
	330	nn	030	Uart 2 fault	C01:S14
	330	nn	031	Uart 3 fault	C01:S15
	330	nn	032	Uart 4 fault	C01:S16
	307	nn	033	Controller Self test fail	C01:S17
	602	nn	034	Controller Time report	C01:S18
	601	nn	035	Controller manual test report	C01:S19
	350	nn	036	Controller Comms backup	C01:S20
	354	nn	037	Controller Comms fail	C01:S21
	351	nn	038	Controller Phone	C01:S22
	140	nn	039	Controller Module substitution	C01:S23
	140	nn	040	PreArm1 Test Pass	C01:S24
	140	nn	041	PreArm1 Test Fail	C01:S25
	140	nn	042	PreArm2 Test Pass	C01:S26
	140	nn	043	PreArm2 Test Fail	C01:S27
	140	nn	044	Controller Request Service	C01:S28
	140	nn	045	Controller Intelligent Reader Problem	C01:S29
	140	nn	046	Controller System input 46	C01:S30
	140	nn	047	Controller System input 47	C01:S31
	140	nn	048	Controller System input 48	C01:S32
		nn	99	Unmappable event	
	140	nn	100	LCD Terminal 1 Zone 1	T01:Z01
	140	nn	101	LCD Terminal 1 Zone 2	T01:Z02
	145	nn	102	LCD Terminal 1 Cabinet tamper	T01:S01
	120	nn	103	LCD Terminal 1 Panic	T01:S02
	420	nn	104	LCD Terminal 1 Door forced	T01:S03
	420	nn	105	LCD Terminal 1 Door Held	T01:S04
	122	nn	106	LCD Terminal 1 Operator duress	T01:S05
	102	nn	107	LCD Terminal 1 Deadman	T01:S06
	421	nn	108	LCD Terminal 1 Too many tries	T01:S07
	143	nn	109	LCD Terminal 1 Lan comms status	T01:S08
				From LCD Terminal Number 1 to 10	
	140	nn	190	LCD Terminal 10 Zone 1	T10:Z01
	140	nn	191	LCD Terminal 10 Zone 2	T10:Z01
	145	nn	192	LCD Terminal 10 Cabinet tamper	T10:S01

	120	nn	193	LCD Terminal 10 Panic	T10:S02
	420	nn	194	LCD Terminal 10 Door forced	T10:S03
	420	nn	195	LCD Terminal 10 Door Held	T10:S04
	122	nn	196	LCD Terminal 10 Operator duress	T10:S05
	102	nn	197	LCD Terminal 10 Deadman	T10:S06
	421	nn	198	LCD Terminal 10 Too many tries	T10:S07
	143	nn	199	LCD Terminal 10 Lan comms status	T10:S08
	140	nn	200	Expander 1 Zone 1	B01:Z01
	140	nn	201	Expander 1 Zone 2	B01:Z02
			to	to	to
	140	nn	231	Expander 1 Zone 32	B01:Z32
	145	nn	232	Expander 1 cabinet tamper	B01:S01
	145	nn	233	Expander 1 internal siren tampers	B01:S02
	145	nn	234	Expander 1 external siren tampers	B01:S03
	301	nn	235	Expander 1 AC fail	B01:S04
	302	nn	236	Expander 1 Battery Low	B01:S05
	140	nn	237	Expander 1 Lan fuse tamper	B01:S06
	140	nn	238	Expander 1 Detector fuse tamper	B01:S07
	143	nn	239	Expander 1 Lan comms status	B01:S08
	309	nn	240	Expander 1 Battery test fail	B01:S09
	306	nn	241	Expander 1 Spare	B01:S10
				From Zone Expander 1 to 19	
	140	nn	956	Expander 19 Zone 1	B19:Z01
	140	nn	957	Expander 19 Zone 2	B19:Z02
			to	to	to
	140	nn	987	Expander 19 Zone 32	B19:Z32
	145	nn	988	Expander 19 cabinet tamper	B19:S01
	145	nn	989	Expander 19 internal siren tampers	B19:S02
	145	nn	990	Expander 19 external siren tampers	B19:S03
	301	nn	991	Expander 19 AC fail	B19:S04
	302	nn	992	Expander 19 Battery Low	B19:S05
	140	nn	993	Expander 19 Lan fuse tamper	B19:S06
	140	nn	994	Expander 19 Detector fuse tamper	B19:S07
	143	nn	995	Expander 19 Lan comms status	B19:S08
	309	nn	996	Expander 19 Battery test fail	B19:S09
	306	nn	997	Expander 19 Spare	B19:S10
	140	nn	200	Expander 1 Zone 1	E01:Z01
	140	nn	201	Expander 1 Zone 2	E01:Z02
			to	to	to
	140	nn	215	Expander 1 Zone 16	E01:Z16
	145	nn	232	Expander 1 cabinet tamper	E01:S01
	145	nn	233	Expander 1 internal siren tampers	E01:S02
	145	nn	234	Expander 1 external siren tampers	E01:S03
	301	nn	235	Expander 1 AC fail	E01:S04
	302	nn	236	Expander 1 Battery Low	E01:S05
	140	nn	237	Expander 1 Lan fuse tamper	E01:S06
	140	nn	238	Expander 1 Detector fuse tamper	E01:S07
	143	nn	239	Expander 1 Lan comms status	E01:S08
	309	nn	240	Expander 1 Battery test fail	E01:S09
	306	nn	241	Expander 1 spare	E01:S10
				From Zone Expander 1 to 19	
	140	nn	956	Expander 19 Zone 1	E19:Z01

	140	nn	957	Expander 19 Zone 2	E19:Z02
			to	to	to
	140	nn	971	Expander 19 Zone 16	E19:Z32
	145	nn	988	Expander 19 cabinet tamper	E19:S01
	145	nn	989	Expander 19 internal siren tampers	E19:S02
	145	nn	990	Expander 19 external siren tampers	E19:S03
	301	nn	991	Expander 19 AC fail	E19:S04
	302	nn	992	Expander 19 Battery Low	E19:S05
	140	nn	993	Expander 19 Lan fuse tamper	E19:S06
	140	nn	994	Expander 19 Detector fuse tamper	E19:S07
	143	nn	995	Expander 19 Lan comms status	E19:S08
	309	nn	996	Expander 19 Battery test fail	E19:S09
	306	nn	997	Expander 19 spare	E19:S10
	140	nn	200	Mini Expander 1 Zone 1	M01:Z01
	140	nn	201	Mini Expander 1 Zone 2	M01:Z02
			to	to	to
	140	nn	207	Mini Expander 1 Zone 8	M01:Z08
	302	nn	232	Mini Expander 1 Low Battery	M01:S01
	140	nn	233	Mini Expander 1 Zn1 Extra	M01:S02
	140	nn	234	Mini Expander 1 Zn2 Extra	M01:S03
	140	nn	235	Mini Expander 1 Zn3 Extra	M01:S04
	140	nn	236	Mini Expander 1 Zn4 Extra	M01:S05
	140	nn	237	Mini Expander 1 Zn5 Extra	M01:S06
	140	nn	238	Mini Expander 1 Zn6 Extra	M01:S07
	140	nn	239	Mini Expander 1 Zn7 Extra	M01:S08
	143	nn	240	Mini Expander 1 LAN Comms	M01:S09
				From Mini Expander 1 to 19	
	140	nn	956	Mini Expander 19 Zone 1	M19:Z01
	140	nn	957	Mini Expander 19 Zone 2	M19:Z02
			to	to	to
	140	nn	963	Mini Expander 19 Zone 8	M19:Z08
	302	nn	988	Mini Expander 19 Low Battery	M19:S01
	140	nn	989	Mini Expander 19 Zn1 Extra	M19:S02
	140	nn	990	Mini Expander 19 Zn2 Extra	M19:S03
	140	nn	991	Mini Expander 19 Zn3 Extra	M19:S04
	140	nn	992	Mini Expander 19 Zn4 Extra	M19:S05
	140	nn	993	Mini Expander 19 Zn5 Extra	M19:S06
	140	nn	994	Mini Expander 19 Zn6 Extra	M19:S07
	140	nn	995	Mini Expander 19 Zn7 Extra	M19:S08
	143	nn	996	Mini Expander 19 LAN Comms	M19:S09
	140	nn	99	All Analogue Module Inputs	Qnn:Znn
	140	nn	99	All Reader Module Inputs	R01:Z01
	140	nn	200	SpreadNet 1 Zone 1	N01:Z01
	140	nn	201	SpreadNet 1 Zone 2	N01:Z02
			to	to	to
	140	nn	215	SpreadNet 1 Zone 16	N01:Z16
	353	nn	232	SpreadNet 1 Timeout	N01:S01
	356	nn	233	SpreadNet 1 Low Battery	N01:S02
	140	nn	234	SpreadNet 1 Spare	N01:S03
	140	nn	235	SpreadNet 1 Spare	N01:S04
				From SpreadNet Module 1 to 13	

	140	nn	704	SpreadNet 13 Zone 1	N13:Z01
	140	nn	705	SpreadNet 13 Zone 2	N13:Z02
			to	to	to
	140	nn	719	SpreadNet 13 Zone 16	N13:Z16
	353	nn	736	SpreadNet 13 Timeout	N13:S01
	356	nn	737	SpreadNet 13 Low Battery	N13:S02
	140	nn	738	SpreadNet 13 Spare	N13:S03
	140	nn	739	SpreadNet 13 Spare	N13:S04
	402	nn	001	Open/Close for Area nn - User 00001	na
			to	to	
	402	nn	900	Open/Close for Area nn - User 00900	na
	403	nn	901	Open/Close for System	na
	403	nn	902	Open/Close for Time Zone	na
	409	nn	903	Open/Close for Function Zone	na
	402	nn	999	Open/Close for Users > 00900	na
			00	General Area Open/Close	na
		01 - 98	01 to 98	Area 001-098 Open/Close	na
		99 - 250	99	Areas > 99 (99 to 250)	na
"nn" = Area Number, "na"=not applicable					

3000 / ACCESS 4000 V4.5

SIMS II Alarm Report Mapping

The Contact ID message

XYZ NN TPP	Message String
XYZ	Event Code. Identifies the type of alarm or event.
NN	Group Byte. Used for module number when reporting zones.
TPP	Point or Zone Number:
T	Module Type. (Expander, Terminal, Reader, etc.)
PP	Zone number (point number)

SIMSII 7 Digit Account Maintenance Zones

XYZNTPP	7 digit message string
XYZ	Event Code. Identifies the type of alarm or event.
N	Group Byte. Used for module no. when reporting zones. Numeric-alpha sequence represents decimal values 1 - 35 i.e. 1 to 9 = 1 to 9, A to Z = 10 to 35
TPP	Point or Zone Number:
T	Module Type. (Expander, Terminal, Reader, etc. See below)
PP	Zone number (point number)

Common Event Codes (XYZ) for ZONE ALARMS

Event (XYZ)	Message	Description
130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
110	FIR	Fire
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
570	ISO	General Zone Isolate
e.g. 130 NN TPP		Burglary Alarm on Module type "T", No: "NN", Zone "PP"
570 NN TPP		General Isolate on Module type "T", No: "NN", Zone "PP"
NN		Module number
T		Module Type
PP		Zone number (point number)

Module Types

Type 0	Control Module	C
Type 1	LCD Terminal	T
Type 2	LED Keypad	Not yet available. Type 2 used for reporting LAN Pwr Supply.
Type 3	Big Expander	B
Type 4	Reader Module	R
Type 5	Wireless Network	N (SpreadNet / Inovonics)
Type 6	Mini Expander	M
Type 7	16zone Expander	E
Type 8	Int 4 Door Contr	I
Type 9	Analog Mod	Q
Type 10	Geoquip	Not yet available
Type 11	LAN Power Supply	P (Reports as Module Type 2)

Message	SIMSII Accnt Maint. Zones	Description
XYZ 01 001	XYZ1001	Control Module Zone Input 1
XYZ 01 002	XYZ1002	Control Module Zone Input 2
XYZ 01 003	XYZ1003	Control Module Zone Input 3
XYZ 01 004	XYZ1004	Control Module Zone Input 4
XYZ 01 005	XYZ1005	Control Module Zone Input 5
XYZ 01 006	XYZ1006	Control Module Zone Input 6
XYZ 01 007	XYZ1007	Control Module Zone Input 7
XYZ 01 008	XYZ1008	Control Module Zone Input 8
XYZ 01 009	XYZ1009	Control Module Zone Input 9
XYZ 01 010	XYZ1010	Control Module Zone Input 10
XYZ 01 011	XYZ1011	Control Module Zone Input 11
XYZ 01 012	XYZ1012	Control Module Zone Input 12
XYZ 01 013	XYZ1013	Control Module Zone Input 13
XYZ 01 014	XYZ1014	Control Module Zone Input 14
XYZ 01 015	XYZ1015	Control Module Zone Input 15
XYZ 01 016	XYZ1016	Control Module Zone Input 16
572 01 0PP		ISO Control Module System Zone Isolate. PP = Zone number

Control Module System Input Alarms

145 01 001	1451001	TAM	Cabinet tamper.
145 01 002	1451002	TAM	Internal siren tamper.
145 01 003	1451003	TAM	External siren tamper.
301 01 004	3011004	LPT	AC fail.
302 01 005	3021005	LBT	Low battery.
150 01 006	1501006	FUS	LAN fuse tamper
150 01 007	1501007	FUS	Detector fuse tamper
143 01 008	1431008	COM	Lan Comms status
309 01 009	3091009	LBT	Battery test fail
306 01 010	3061010	TRB	Checksum alteration
305 01 011	3051011	TRB	System power on reset.
351 01 012	3511012	LFT	Phone Line Fail when required
330 01 013	3301013	COM	Uart 1 problems
330 01 014	3301014	COM	Uart 2 problems
330 01 015	3301015	COM	Uart 3 problems
330 01 016	3301016	COM	Uart 4 problems
307 01 017	3071017	TRB	Zone self test fail
601 01 019	6011019	TST	Manual trigger
350 01 020	3501020	COM	Comms Backup.
354 01 021	3541021	COM	Comms Fail.
351 01 022	3511022	LFT	Phone Line Fail when idle
150 01 023	1501023	ALR	Module Substitution

XYZ 01 TPP Message String

XYZ Event Code
 01 1 Module number. (A system has only one Control Module)
 T Module Type. Type 0 = Control Module.
 PP Zone number (point number)

Message	SIMSII Acct Maint. Zones	Description
XYZ NN 101	XYZN101	LCD Terminal No: "NN" Zone Input 1
XYZ NN 102	XYZN102	LCD Terminal No: "NN" Zone Input 2
572 NN 1PP	572N1PP	ISO LCD Terminal No: "NN" System Zone Isolate PP = Zone number

Common Event Codes (XYZ) for Zone Alarms

130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
110	FIR	Fire
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
e.g. 140 02 102	1402102	General Zone Alarm on LCD Terminal No: 2, Zone 2.

LCD Terminal System Input Alarms

145 NN 101	145N101	TAM	LCD Terminal No: "NN" Cabinet tamper.
120 NN 102	120N102	PAN	LCD Terminal No: "NN" Panic
420 NN 103	420N103	TAM	LCD Terminal No: "NN" Door Forced
420 NN 104	420N104	TAM	LCD Terminal No: "NN" Door Held Open
122 NN 105	122N105	DUR	LCD Terminal No: "NN" Duress
102 NN 106	102N106	ALR	LCD Terminal No: "NN" Deadman
421 NN 107	421N107	ALR	LCD Terminal No: "NN" Too many tries
143 NN 108	143N108	COM	LCD Terminal No: "NN" LAN fail.

XYZ NN TPP		Message String
XYZ		Event Code
NN	N	Module number. (A system can have up to 99 LCD Terminals) SIMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)
T		Module Type. Type 1 = LCD Terminal.
PP		Zone number (point number)

Message	SIMSII Accnt Maint. Zones	Description
XYZ NN 201	XYZN201	LAN Power Supply No: "NN" Zone Input 1
XYZ NN 202	XYZN202	LAN Power Supply No: "NN" Zone Input 2
572 NN 2??	572N2??	ISO LAN Power Supply No: "NN" System Zone Isolate ?? = Zone number

Common Event Codes (XYZ) for Zone Alarms

130		BUR	Burglary
137		TAM	Tamper
573		ISO	Isolate
110		FIR	Fire
373		TAM	Fire Zone Tamper
571		ISO	Fire Zone Isolate
140		ALR	General Zone Alarm
144		TAM	General Zone Tamper
e.g. 140 03 201	1403201		General Zone Alarm on LAN Power Supply No: 3, Zone 1.

LED Terminal System Input Alarms

145 NN 201	145N201	TAM	LAN Power Supply No: "NN" Cabinet tamper.
301 NN 202	301N202	LPT	LAN Power Supply No: "NN" AC Fail
302 NN 203	302N203	LBT	LAN Power Supply No: "NN" Low Battery
150 NN 204	150N204	ALR	LAN Power Supply No: "NN" Battery Fail
150 NN 205	150N205	ALR	LAN Power Supply No: "NN" Detector Fuse
150 NN 206	150N206	ALR	LAN Power Supply No: "NN" LAN Fuse
150 NN 207	150N207	ALR	LAN Power Supply No: "NN" Battery Fuse
150 NN 208	150N208	ALR	LAN Power Supply No: "NN" Aux 2 Fuse Fail
145 NN 209	145N209	ALR	LAN Power Supply No: "NN" Aux 2 Tamper
150 NN 210	150N210	ALR	LAN Power Supply No: "NN" Detector Over-current
150 NN 211	150N211	ALR	LAN Power Supply No: "NN" Battery Over-current
150 NN 212	150N212	ALR	LAN Power Supply No: "NN" Over-volts
150 NN 213	150N213	ALR	LAN Power Supply No: "NN" Low Volts
330 NN 214	330N214	ALR	LAN Power Supply No: "NN" Slave Fail
309 NN 215	309N215	LBT	LAN Power Supply No: "NN" Battery Test Fail
143 NN 216	143N216	COM	LAN Power Supply No: "NN" LAN Comms Problem
XYZ NN TPP			Message String
XYZ			Event Code
NN	N		Module number. (Up to 99)
			SIMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)
T			Module Type. Type 2 = LAN Power Supply.
PP			Zone number (point number)

NOTE:

In the 3000/Access 4000 system, the LAN Power Supply is actually Type 11, but reports as Type 2 in SIMSII mapping. (Module Type 2 is the LED Terminal, which has never been implemented.)

Message	SIMSII Acct Maint. Zones	Description
XYZ NN 301	XYZN301	Big Expander Module No: "NN" Zone Input 1
XYZ NN 302	XYZN302	Big Expander Module No: "NN" Zone Input 2
XYZ NN 303	XYZN303	Big Expander Module No: "NN" Zone Input 3
XYZ NN 304	XYZN304	Big Expander Module No: "NN" Zone Input 4
XYZ NN 305	XYZN305	Big Expander Module No: "NN" Zone Input 5
XYZ NN 306	XYZN306	Big Expander Module No: "NN" Zone Input 6
XYZ NN 307	XYZN307	Big Expander Module No: "NN" Zone Input 7
XYZ NN 308	XYZN308	Big Expander Module No: "NN" Zone Input 8
XYZ NN 309	XYZN309	Big Expander Module No: "NN" Zone Input 9
XYZ NN 310	XYZN310	Big Expander Module No: "NN" Zone Input 10
XYZ NN 311	XYZN311	Big Expander Module No: "NN" Zone Input 11
XYZ NN 312	XYZN312	Big Expander Module No: "NN" Zone Input 12
XYZ NN 313	XYZN313	Big Expander Module No: "NN" Zone Input 13
XYZ NN 314	XYZN314	Big Expander Module No: "NN" Zone Input 14
XYZ NN 315	XYZN315	Big Expander Module No: "NN" Zone Input 15
XYZ NN 316	XYZN316	Big Expander Module No: "NN" Zone Input 16
XYZ NN 317	XYZN317	Big Expander Module No: "NN" Zone Input 17
XYZ NN 318	XYZN318	Big Expander Module No: "NN" Zone Input 18
XYZ NN 319	XYZN319	Big Expander Module No: "NN" Zone Input 19
XYZ NN 320	XYZN320	Big Expander Module No: "NN" Zone Input 20
XYZ NN 321	XYZN321	Big Expander Module No: "NN" Zone Input 21
XYZ NN 322	XYZN322	Big Expander Module No: "NN" Zone Input 22
XYZ NN 323	XYZN323	Big Expander Module No: "NN" Zone Input 23
XYZ NN 324	XYZN324	Big Expander Module No: "NN" Zone Input 24
XYZ NN 325	XYZN325	Big Expander Module No: "NN" Zone Input 25
XYZ NN 326	XYZN326	Big Expander Module No: "NN" Zone Input 26
XYZ NN 327	XYZN327	Big Expander Module No: "NN" Zone Input 27
XYZ NN 328	XYZN328	Big Expander Module No: "NN" Zone Input 28
XYZ NN 329	XYZN329	Big Expander Module No: "NN" Zone Input 29
XYZ NN 330	XYZN330	Big Expander Module No: "NN" Zone Input 30
XYZ NN 331	XYZN331	Big Expander Module No: "NN" Zone Input 31
XYZ NN 332	XYZN332	Big Expander Module No: "NN" Zone Input 32
572 NN 3PP	572N3PP	ISO Big Expander Module No: "NN" System Zone Isolate PP = Zone Number

Common Event Codes (XYZ) for Zone Alarms

130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
110	FIR	Fire
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
570	ISO	General Zone Isolate
e.g. 130 01 314	1301314	Burglary Alarm on Big Expander Module No: 1, Zone 14.

Big Expander Module System Input Alarms

145 NN 301	145N301	TAM	Big Expander Module No: "NN" Cabinet tamper.
145 NN 302	145N302	TAM	Big Expander Module No: "NN" Internal siren tamper
145 NN 303	145N303	TAM	Big Expander Module No: "NN" Ext. siren tamper.
301 NN 304	301N304	LPT	Big Expander Module No: "NN" AC fail.
302 NN 305	302N305	LBT	Big Expander Module No: "NN" Low battery.
150 NN 306	150N306	FUS	Big Expander Module No: "NN" LAN fuse
150 NN 307	150N307	FUS	Big Expander Module No: "NN" Detector fuse
143 NN 308	143N308	COM	Big Expander Module No: "NN" Lan fail
309 NN 309	309N309	LBT	Big Expander Module No: "NN" Battery test fail

e.g. 302 04 305 3024305 Low Battery Alarm on Big Expander Module No: 4.

XYZ NN TPP		Message String
XYZ		Event Code
NN	N	Module number. (A system can have up to 99 Big Expanders)
		SIMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)
T		Module Type. Type 3 = Big Expander Module.
PP		Zone number (point number)

Message	SIMSII Acct Maint. Zones	Description
XYZ NN 401	XYZN401	Reader Module No: "NN" Zone Input 1
XYZ NN 402	XYZN402	Reader Module No: "NN" Zone Input 2
XYZ NN 403	XYZN403	Reader Module No: "NN" Zone Input 3
XYZ NN 404	XYZN404	Reader Module No: "NN" Zone Input 4
XYZ NN 405	XYZN405	Reader Module No: "NN" Zone Input 5
XYZ NN 406	XYZN406	Reader Module No: "NN" Zone Input 6
XYZ NN 407	XYZN407	Reader Module No: "NN" Zone Input 7
XYZ NN 408	XYZN408	Reader Module No: "NN" Zone Input 8
572 NN 4PP	572N4PP	ISO Reader Module No: "NN" System Zone Isolate PP = Zone number

Common Event Codes (XYZ) for Zone Alarms

130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
570	ISO	General Zone Isolate
e.g. 137 04 405	1374405	Tamper Burglary Zone on Reader module No: 4, Zone 5.

Reader Module System Input Alarms

145 NN 401	145N401	TAM	Reader Module No: "NN" Cabinet tamper.
302 NN 402	302N402	LBT	Reader Module No: "NN" Low Voltage
420 NN 403	420N403	TAM	Reader Module No: "NN" Door 1 Forced
420 NN 404	420N404	TAM	Reader Module No: "NN" Door 1 Held Open
420 NN 405	420N405	TAM	Reader Module No: "NN" Door 2 Forced
420 NN 406	420N406	TAM	Reader Module No: "NN" Door 2 Held Open
421 NN 407	421N407	ALR	Reader Module No: "NN" Illegal Card
143 NN 408	143N408	COM	Reader Module No: "NN" LAN fail.
XYZ NN TPP			Message String
XYZ			Event Code
NN	N		Module number. (A system can have up to 99 Reader Modules)
			SIMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)
T			Module Type. Type 4 = Reader Module.
PP			Zone number (point number)

Message	SIMSII Accnt Maint. Zones	Description
XYZ NN 501	XYZN501	Wireless Network Module No: "NN" Zone Input 1
XYZ NN 502	XYZN502	Wireless Network Module No: "NN" Zone Input 2
XYZ NN 503	XYZN503	Wireless Network Module No: "NN" Zone Input 3
XYZ NN 504	XYZN504	Wireless Network Module No: "NN" Zone Input 4
XYZ NN 505	XYZN505	Wireless Network Module No: "NN" Zone Input 5
XYZ NN 506	XYZN506	Wireless Network Module No: "NN" Zone Input 6
XYZ NN 507	XYZN507	Wireless Network Module No: "NN" Zone Input 7
XYZ NN 508	XYZN508	Wireless Network Module No: "NN" Zone Input 8
XYZ NN 509	XYZN509	Wireless Network Module No: "NN" Zone Input 9
XYZ NN 510	XYZN510	Wireless Network Module No: "NN" Zone Input 10
XYZ NN 511	XYZN511	Wireless Network Module No: "NN" Zone Input 11
XYZ NN 512	XYZN512	Wireless Network Module No: "NN" Zone Input 12
XYZ NN 513	XYZN513	Wireless Network Module No: "NN" Zone Input 13
XYZ NN 514	XYZN514	Wireless Network Module No: "NN" Zone Input 14
XYZ NN 515	XYZN515	Wireless Network Module No: "NN" Zone Input 15
XYZ NN 516	XYZN516	Wireless Network Module No: "NN" Zone Input 16
572 NN 5PP	572N5PP	ISO Wireless Network Module No: "NN" System Zone Isolate PP = Zone number

Common Event Codes (XYZ) for Zone Alarms

130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
570	ISO	General Zone Isolate
e.g. 130 02 506	1302506	Alarm Burglary Zone on Wireless N'work module No: 2, Zone 6.

Wireless Network Module System Input Alarms

145 NN 501	145N501	TAM	Wireless Network Module No: "NN" Transmitter Timeout
302 NN 502	302N502	LBT	Wireless Network Module No: "NN" Low Battery
XYZ NN TPP			Message String
XYZ			Event Code
NN	N		Module number. (A system can have up to 13 Wireless Modules) SIMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)
T			Module Type. Type 5 = Wireless Network Module. (SpreadNet or Inovonics)
PP			Zone number (point number)

Message	SIMSII Acct Maint. Zones	Description
XYZ NN 601	XYZN601	Mini Expander Module No: "NN" Zone Input 1
XYZ NN 602	XYZN602	Mini Expander Module No: "NN" Zone Input 2
XYZ NN 603	XYZN603	Mini Expander Module No: "NN" Zone Input 3
XYZ NN 604	XYZN604	Mini Expander Module No: "NN" Zone Input 4
XYZ NN 605	XYZN605	Mini Expander Module No: "NN" Zone Input 5
XYZ NN 606	XYZN606	Mini Expander Module No: "NN" Zone Input 6
XYZ NN 607	XYZN607	Mini Expander Module No: "NN" Zone Input 7
XYZ NN 608	XYZN608	Mini Expander Module No: "NN" Zone Input 8
572 NN 6PP	572N6PP	ISO Mini Expander Module No: "NN" System Zone Isolate PP = Zone Number

Common Event Codes (XYZ) for Zone Alarms

130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
110	FIR	Fire
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
570	ISO	General Zone Isolate
e.g. 130 12 607	130C607	Burglary Alarm on Mini Expander Module No: 12, Zone 7.

Mini Expander Module System Input Alarms

302 NN 601	302N601	LBT	Mini Expander Module No: "NN" Low Volts.
143 NN 608	143N608	COM	Mini Expander Module No: "NN" Lan fail
e.g. 302 04 601	3024601		Low Volts Alarm on Mini Expander Module No: 4.
XYZ NN TPP			Message String
XYZ			Event Code
NN	N		Module number. (A system can have up to 99 Mini Expanders)
			SIMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)
T			Module Type. Type 6 = Mini Expander Module.
PP			Zone number (point number)

Message	SIMSII Accnt Maint. Zones	Description
XYZ NN 701	XYZN701	Expander Module No: "NN" Zone Input 1
XYZ NN 702	XYZN702	Expander Module No: "NN" Zone Input 2
XYZ NN 703	XYZN703	Expander Module No: "NN" Zone Input 3
XYZ NN 704	XYZN704	Expander Module No: "NN" Zone Input 4
XYZ NN 705	XYZN705	Expander Module No: "NN" Zone Input 5
XYZ NN 706	XYZN706	Expander Module No: "NN" Zone Input 6
XYZ NN 707	XYZN707	Expander Module No: "NN" Zone Input 7
XYZ NN 708	XYZN708	Expander Module No: "NN" Zone Input 8
XYZ NN 709	XYZN709	Expander Module No: "NN" Zone Input 9
XYZ NN 710	XYZN710	Expander Module No: "NN" Zone Input 10
XYZ NN 711	XYZN711	Expander Module No: "NN" Zone Input 11
XYZ NN 712	XYZN712	Expander Module No: "NN" Zone Input 12
XYZ NN 713	XYZN713	Expander Module No: "NN" Zone Input 13
XYZ NN 714	XYZN714	Expander Module No: "NN" Zone Input 14
XYZ NN 715	XYZN715	Expander Module No: "NN" Zone Input 15
XYZ NN 716	XYZN716	Expander Module No: "NN" Zone Input 16
572 NN 7PP	572N7PP	ISO Expander Module No: "NN" System Zone Isolate PP = Zone Number

Common Event Codes (XYZ) for Zone Alarms

130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
110	FIR	Fire
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
570	ISO	General Zone Isolate
e.g. 130 01 714	1301714	Burglary Alarm on Expander Module No: 1, Zone 14.

Expander Module System Input Alarms

145 NN 701	145N701	TAM	Expander Module No: "NN" Cabinet tamper.
145 NN 702	145N702	TAM	Expander Module No: "NN" Internal siren tamper
145 NN 703	145N703	TAM	Expander Module No: "NN" Ext. siren tamper.
301 NN 704	301N704	LPT	Expander Module No: "NN" AC fail.
302 NN 705	302N705	LBT	Expander Module No: "NN" Low battery.
150 NN 706	150N706	FUS	Expander Module No: "NN" LAN fuse
150 NN 707	150N707	FUS	Expander Module No: "NN" Detector fuse
143 NN 708	143N708	COM	Expander Module No: "NN" Lan fail
309 NN 709	309N709	LBT	Expander Module No: "NN" Battery test fail
e.g. 302 04 705	3024705		Low Battery Alarm on Expander Module No: 4.

XYZ NN TPP		Message String
XYZ		Event Code
NN	N	Module number. (A system can have up to 99 Expanders)
		SIMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)
T		Module Type. Type 3 = Expander Module.
PP		Zone number (point number)

Message	SIMSII Acct Maint. Zones	Description
XYZ NN 801	XYZN801	Intelligent 4Dr Access Module No: "NN" Zone Input 1
XYZ NN 802	XYZN802	Intelligent 4Dr Access Module No: "NN" Zone Input 2
XYZ NN 803	XYZN803	Intelligent 4Dr Access Module No: "NN" Zone Input 3
XYZ NN 804	XYZN804	Intelligent 4Dr Access Module No: "NN" Zone Input 4
XYZ NN 805	XYZN805	Intelligent 4Dr Access Module No: "NN" Zone Input 5
XYZ NN 806	XYZN806	Intelligent 4Dr Access Module No: "NN" Zone Input 6
XYZ NN 807	XYZN807	Intelligent 4Dr Access Module No: "NN" Zone Input 7
XYZ NN 808	XYZN808	Intelligent 4Dr Access Module No: "NN" Zone Input 8
XYZ NN 809	XYZN809	Intelligent 4Dr Access Module No: "NN" Reed Input Door #1
XYZ NN 810	XYZN810	Intelligent 4Dr Access Module No: "NN" Reed Input Door #2
XYZ NN 811	XYZN811	Intelligent 4Dr Access Module No: "NN" Reed Input Door #3
XYZ NN 812	XYZN812	Intelligent 4Dr Access Module No: "NN" Reed Input Door #4
XYZ NN 813	XYZN813	Intelligent 4Dr Access Module No: "NN" Tongue Sense Dr #1
XYZ NN 814	XYZN814	Intelligent 4Dr Access Module No: "NN" Tongue Sense Dr #2
XYZ NN 815	XYZN815	Intelligent 4Dr Access Module No: "NN" Tongue Sense Dr #3
XYZ NN 816	XYZN816	Intelligent 4Dr Access Module No: "NN" Tongue Sense Dr #4
572 NN 8PP	572N8PP	ISO Reader Module No: "NN" System Zone Isolate PP = Zone number

Common Event Codes (XYZ) for Zone Alarms

130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
570	ISO	General Zone Isolate
e.g. 137 04 805	1374805	Tamper Burglary Zone on Int. Access module No: 4, Zone 5.

Reader Module System Input Alarms

145 NN 801	145N801	TAM	Intell. Access Module No: "NN" Lock tamper Door #1
145 NN 802	145N802	TAM	Intell. Access Module No: "NN" Lock tamper Door #2
145 NN 803	145N803	TAM	Intell. Access Module No: "NN" Lock tamper Door #3
145 NN 804	145N804	TAM	Intell. Access Module No: "NN" Lock tamper Door #4
420 NN 805	420N805	TAM	Intell. Access Module No: "NN" Door Forced. Door #1
420 NN 806	420N806	TAM	Intell. Access Module No: "NN" Door Forced. Door #2
420 NN 807	420N807	TAM	Intell. Access Module No: "NN" Door Forced. Door #3
420 NN 808	420N808	TAM	Intell. Access Module No: "NN" Door Forced. Door #4
420 NN 809	420N809	TAM	Intell. Access Module No: "NN" Door Held Open. Door #1
420 NN 810	420N810	TAM	Intell. Access Module No: "NN" Door Held Open. Door #2
420 NN 811	420N811	TAM	Intell. Access Module No: "NN" Door Held Open. Door #3
420 NN 812	420N812	TAM	Intell. Access Module No: "NN" Door Held Open. Door #4
421 NN 813	421N813	ALR	Intell. Access Module No: "NN" Illegal Card. Door #1
421 NN 814	421N814	ALR	Intell. Access Module No: "NN" Illegal Card. Door #2
421 NN 815	421N815	ALR	Intell. Access Module No: "NN" Illegal Card. Door #3
421 NN 816	421N816	ALR	Intell. Access Module No: "NN" Illegal Card. Door #4
145 NN 817	145N817	TAM	Intell. Access Module No: "NN" Cabinet tamper.
145 NN 818	145N818	TAM	Intell. Access Module No: "NN" General Lock Fault
309 NN 819	309N819	LBT	Intell. Access Module No: "NN" Battery test fail.
301 NN 820	301N820	LPT	Intell. Access Module No: "NN" AC fail.
302 NN 821	302N821	LBT	Intell. Access Module No: "NN" Low Battery
150 NN 822	150N822	FUS	Intell. Access Module No: "NN" LAN fuse
150 NN 823	150N823	FUS	Intell. Access Module No: "NN" Detector fuse
143 NN 824	143N824	COM	Intell. Access Module No: "NN" LAN fail.

XYZ NN TPP

XYZ

NN N

T

PP

Message String

Event Code

Module number.

SIMMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)

Module Type. Type 8 = Intelligent 4Dr Access Module.

Zone number (point number)

Message	SIMSII Accnt Maint. Zones	Description
999 NN 099	9991099	Analogue Module No: "NN" Zone Input 1
999 NN 099	9991099	Analogue Module No: "NN" Zone Input 2
999 NN 099	9991099	Analogue Module No: "NN" Zone Input 3
999 NN 099	9991099	Analogue Module No: "NN" Zone Input 4
999 NN 099	9991099	Analogue Module No: "NN" Zone Input 5
999 NN 099	9991099	Analogue Module No: "NN" Zone Input 6
572 NN 7PP	572N7PP	ISO Expander Module No: "NN" System Zone Isolate PP = Zone Number

Common Event Codes (XYZ) for Zone Alarms

130	BUR	Burglary
137	TAM	Tamper
573	ISO	Isolate
110	FIR	Fire
373	TAM	Fire Zone Tamper
571	ISO	Fire Zone Isolate
140	ALR	General Zone Alarm
144	TAM	General Zone Tamper
570	ISO	General Zone Isolate
e.g. 130 01 714	1301714	Burglary Alarm on Expander Module No: 1, Zone 14.

Analogue Module System Input Alarms

999 NN 099	999N099	TAM	Analogue Module No: "NN" Cabinet tamper.
999 NN 099	999N099	TAM	Analogue Module No: "NN" Low Volts.
999 NN 099	999N099	TAM	Analogue Module No: "NN" LAN Comms.
e.g. 999 01 099	999N099		All Analogue Inputs

XYZ NN TPP	Message String
XYZ	Event Code
NN	Module number. (A system can have up to 99 Expanders) SIMSII uses 1-9 then A-Z. (Representing decimal 1 to 35)
T	Module Type. Type 3 = Expander Module.
PP	Zone number (point number)

3000 / ACCESS 4000 V4.5

**Contact ID
Access-1 Mapping Tables**

CONTACT ID ACCESS-1 MAPPING					
Account No.	Event Code	Area No.	POINT	Description	Panel Input
	140	nn	1	Controller zone 1	C01:Z01
	140	nn	2	Controller zone 2	C01:Z02
			to	to	"
	140	nn	16	Controller zone 16	C01:Z16
	145	nn	17	Controller cabinet tamper	C01:S01
	145	nn	18	Controller internal siren tamper	C01:S02
	145	nn	19	Controller external siren tamper	C01:S03
	301	nn	20	Controller AC fail	C01:S04
	302	nn	21	Controller Low Battery	C01:S05
	140	nn	22	Controller Lan fuse tamper	C01:S06
	140	nn	23	Controller Detector fuse tamper	C01:S07
	143	nn	24	Controller Lan comms	C01:S08
	309	nn	25	Controller Battery test fail	C01:S09
	306	nn	26	Controller Checksum alteration	C01:S10
	305	nn	27	Controller system power on reset	C01:S11
	351	nn	28	Controller Phone line fault	C01:S12
	330	nn	29	Uart 1 fault	C01:S13
	330	nn	30	Uart 2 fault	C01:S14
	330	nn	31	Uart 3 fault	C01:S15
	330	nn	32	Uart 4 fault	C01:S16
	307	nn	33	Controller Self test fail	C01:S17
	602	nn	34	Controller Time report	C01:S18
	601	nn	35	Controller manual test report	C01:S19
	350	nn	36	Controller Comms backup	C01:S20
	354	nn	37	Controller Comms fail	C01:S21
	351	nn	38	Controller Phone	C01:S22
	140	nn	39	Controller Module substitution	C01:S23
	140	nn	40	PreArm1 Test Pass	C01:S24
	140	nn	41	PreArm1 Test Fail	C01:S25
	140	nn	42	PreArm2 Test Pass	C01:S26
	140	nn	43	PreArm2 Test Fail	C01:S27
	140	nn	44	Controller Request Service	C01:S28
	140	nn	45	Controller Intelligent Reader Problem	C01:S29
	140	nn	46	Controller System input 46	C01:S30
	140	nn	47	Controller System input 47	C01:S31
	140	nn	48	Controller System input 48	C01:S32
		nn	99	Unmappable event	
	140	nn	100	LCD Terminal 1 Zone 1	T01:Z01
	140	nn	101	LCD Terminal 1 Zone 2	T01:Z02
	145	nn	102	LCD Terminal 1 Cabinet tamper	T01:S01
	120	nn	103	LCD Terminal 1 Panic	T01:S02
	420	nn	104	LCD Terminal 1 Door forced	T01:S03
	420	nn	105	LCD Terminal 1 Door open too long	T01:S04
	122	nn	106	LCD Terminal 1 Operator duress	T01:S05
	102	nn	107	LCD Terminal 1 Deadman	T01:S06
	421	nn	108	LCD Terminal 1 Too many tries	T01:S07
	143	nn	109	LCD Terminal 1 Lan comms status	T01:S08
				From LCD Terminal Number 1 to 9	
	140	nn	180	LCD Terminal 9 Zone 1	T09:Z01
	140	nn	181	LCD Terminal 9 Zone 2	T09:Z02
	145	nn	182	LCD Terminal 9 Cabinet tamper	T09:S01

	120	nn	183	LCD Terminal 9 Panic	T09:S02
	420	nn	184	LCD Terminal 9 Door forced	T09:S03
	420	nn	185	LCD Terminal 9 Door open too long	T09:S04
	122	nn	186	LCD Terminal 9 Operator duress	T09:S05
	102	nn	187	LCD Terminal 9 Deadman	T09:S06
	421	nn	188	LCD Terminal 9 Too many tries	T09:S07
	143	nn	189	LCD Terminal 9 Lan comms status	T09:S08
	140	nn	190	Expander 1 Zone 1	B01:Z01
	140	nn	191	Expander 1 Zone 2	B01:Z02
			to	to	to
	140	nn	205	Expander 1 Zone 16	B01:Z16
	140	nn	99	Expander 1 Zone 17	B01:Z17
				to	to
	140	nn	99	Expander 1 Zone 32	B01:Z32
	145	nn	206	Expander 1 cabinet tamper	B01:S01
	145	nn	208	Expander 1 internal siren tampers	B01:S02
	145	nn	209	Expander 1 external siren tampers	B01:S03
	301	nn	210	Expander 1 AC fail	B01:S04
	302	nn	211	Expander 1 Battery Low	B01:S05
	140	nn	212	Expander 1 Lan fuse tamper	B01:S06
	140	nn	213	Expander 1 Detector fuse tamper	B01:S07
	143	nn	214	Expander 1 Lan comms status	B01:S08
	309	nn	215	Expander 1 Battery test fail	B01:S09
	306	nn	216	Expander 1 spare	B01:S10
				From Zone Expander 1 to 9	
	140	nn	398	Expander 9 Zone 1	B09:Z01
	140	nn	399	Expander 9 Zone 2	B09:Z02
			to	to	to
	140	nn	413	Expander 9 Zone 16	B09:Z16
	140	nn	99	Expander 9 Zone 17	B01:Z17
			to	to	to
	140	nn	99	Expander 9 Zone 32	B01:Z32
	145	nn	414	Expander 9 cabinet tamper	B09:S01
	145	nn	415	Expander 9 internal siren tampers	B09:S02
	145	nn	416	Expander 9 external siren tampers	B09:S03
	301	nn	417	Expander 9 AC fail	B09:S04
	302	nn	418	Expander 9 Battery Low	B09:S05
	140	nn	419	Expander 9 Lan fuse tamper	B09:S06
	140	nn	420	Expander 9 Detector fuse tamper	B09:S07
	143	nn	421	Expander 9 Lan comms status	B09:S08
	309	nn	422	Expander 9 Battery test fail	B09:S09
	306	nn	423	Expander 9 spare	B09:S10
	140	nn	190	Expander 1 Zone 1	E01:Z01
	140	nn	191	Expander 1 Zone 2	E01:Z02
			to	to	to
	140	nn	205	Expander 1 Zone 16	E01:Z16
	145	nn	206	Expander 1 cabinet tamper	E01:S01
	145	nn	208	Expander 1 internal siren tampers	E01:S02
	145	nn	209	Expander 1 external siren tampers	E01:S03
	301	nn	210	Expander 1 AC fail	E01:S04
	302	nn	211	Expander 1 Battery Low	E01:S05
	140	nn	212	Expander 1 Lan fuse tamper	E01:S06
	140	nn	213	Expander 1 Detector fuse tamper	E01:S07
	143	nn	214	Expander 1 Lan comms status	E01:S08

	309	nn	215	Expander 1 Battery test fail	E01:S09
	306	nn	216	Expander 1 spare	E01:S10
				From Zone Expander 1 to 9	
	140	nn	398	Expander 9 Zone 1	E09:Z01
	140	nn	399	Expander 9 Zone 2	E09:Z02
			to	to	to
	140	nn	413	Expander 9 Zone 16	E09:Z32
	145	nn	414	Expander 9 cabinet tamper	E09:S01
	145	nn	415	Expander 9 internal siren tampers	E09:S02
	145	nn	416	Expander 9 external siren tampers	E09:S03
	301	nn	417	Expander 9 AC fail	E09:S04
	302	nn	418	Expander 9 Battery Low	E09:S05
	140	nn	419	Expander 9 Lan fuse tamper	E09:S06
	140	nn	420	Expander 9 Detector fuse tamper	E09:S07
	143	nn	421	Expander 9 Lan comms status	E09:S08
	309	nn	422	Expander 9 Battery test fail	E09:S09
	306	nn	423	Expander 9 spare	E09:S10
	140	nn	190	Mini Expander 1 Zone 1	M01:Z01
	140	nn	191	Mini Expander 1 Zone 2	M01:Z02
			to	to	to
	140	nn	205	Mini Expander 1 Zone 8	M01:Z08
	302	nn	206	Mini Expander 1 Low Battery	M01:S01
	140	nn	208	Mini Expander 1 Zn1 Extra	M01:S02
	140	nn	209	Mini Expander 1 Zn2 Extra	M01:S03
	140	nn	210	Mini Expander 1 Zn3 Extra	M01:S04
	140	nn	211	Mini Expander 1 Zn4 Extra	M01:S05
	140	nn	212	Mini Expander 1 Zn5 Extra	M01:S06
	140	nn	213	Mini Expander 1 Zn6 Extra	M01:S07
	140	nn	214	Mini Expander 1 Zn7 Extra	M01:S08
	143	nn	215	Mini Expander 1 LAN Comms	M01:S09
	140	nn	398	Mini Expander 9 Zone 1	M09:Z01
	140	nn	399	Mini Expander 9 Zone 2	M09:Z02
			to	to	to
	140	nn	413	Mini Expander 9 Zone 8	M09:Z08
	302	nn	414	Mini Expander 9 Low Battery	M09:S01
	140	nn	415	Mini Expander 9 Zn1 Extra	M09:S02
	140	nn	416	Mini Expander 9 Zn2 Extra	M09:S03
	140	nn	417	Mini Expander 9 Zn3 Extra	M09:S04
	140	nn	418	Mini Expander 9 Zn4 Extra	M09:S05
	140	nn	419	Mini Expander 9 Zn5 Extra	M09:S06
	140	nn	420	Mini Expander 9 Zn6 Extra	M09:S07
	140	nn	421	Mini Expander 9 Zn7 Extra	M09:S08
	143	nn	422	Mini Expander 9 LAN Comms	M09:S09
	140	nn	99	All Analogue Module Inputs	Qnn:Znn
	140	nn	424	Reader Module 1 Zone 1 Door 1	R01:Z01
	140	nn	425	Reader Module 1 Zone 2 REX button	R01:Z02
	140	nn	426	Reader Module 1 Zone 3 REN button	R01:Z03
	140	nn	427	Reader Module 1 Zone 4 spare	R01:Z04
	140	nn	428	Reader Module 1 Zone 5	R01:Z05
	140	nn	429	Reader Module 1 Zone 6	R01:Z06
	140	nn	430	Reader Module 1 Zone 7	R01:Z07
	140	nn	431	Reader Module 1 Zone 8	R01:Z08

	145	nn	432	Reader Module 1 Cabinet tamper	R01:S01
	302	nn	433	Reader Module 1 Low voltage	R01:S02
	140	nn	434	Reader Module 1 Door 1 forced	R01:S03
	140	nn	435	Reader Module 1 Door 1 open too long	R01:S04
	140	nn	436	Reader Module 1 Door 2 forced	R01:S05
	140	nn	437	Reader Module 1 Door 2 open too long	R01:S06
	140	nn	438	Reader Module 1 Illegal card either	R01:S07
	143	nn	439	Reader Module 1 Lan comms status	R01:S08
				From reader module 1 to 36	
	140	nn	983	Reader Module 36 Zone 1 Door 1	R36:Z01
	140	nn	984	Reader Module 36 Zone 2 REX button	R36:Z02
	140	nn	985	Reader Module 36 Zone 3 REN button	R36:Z03
	140	nn	986	Reader Module 36 Zone 4 spare	R36:Z04
	140	nn	987	Reader Module 36 Zone 5	R36:Z05
	140	nn	989	Reader Module 36 Zone 6	R36:Z06
	140	nn	990	Reader Module 36 Zone 7	R36:Z07
	140	nn	991	Reader Module 36 Zone 8	R36:Z08
	145	nn	992	Reader Module 36 Cabinet tamper	R36:S01
	302	nn	993	Reader Module 36 Low voltage	R36:S02
	140	nn	994	Reader Module 36 Door 1 forced	R36:S03
	140	nn	995	Reader Module 36 Door 1 open too long	R36:S04
	140	nn	996	Reader Module 36 Door 2 forced	R36:S05
	140	nn	997	Reader Module 36 Door 2 open too long	R36:S06
	140	nn	998	Reader Module 36 Illegal card either	R36:S07
	143	nn	999	Reader Module 36 Lan comms status	R36:S08
	140	nn	190	SpreadNet 1 Zone 1	N01:Z01
	140	nn	191	SpreadNet 1 Zone 2	N01:Z02
			to	to	to
	140	nn	205	SpreadNet 1 Zone 16	N01:Z16
	353	nn	206	SpreadNet 1 Timeout	N01:S01
	356	nn	208	SpreadNet 1 Low Battery	N01:S02
	140	nn	209	SpreadNet 1 Spare	N01:S03
	140	nn	210	SpreadNet 1 Spare	N01:S04
				From SpreadNet Module 1 to 9	
	140	nn	398	SpreadNet 9 Zone 1	N01:Z01
	140	nn	399	SpreadNet 9 Zone 2	N01:Z02
			to	to	to
	140	nn	413	SpreadNet 9 Zone 16	N01:Z16
	353	nn	414	SpreadNet 9 Timeout	N01:S01
	356	nn	415	SpreadNet 9 Low Battery	N01:S02
	140	nn	416	SpreadNet 9 Spare	N01:S03
	140	nn	417	SpreadNet 9 Spare	N01:S04
	402	nn	001	Open/Close for Area nn - User 00001	na
			to	to	
	402	nn	900	Open/Close for Area nn - User 00900	na
	403	nn	901	Open/Close for System	na
	403	nn	902	Open/Close for Time Zone	na
	409	nn	903	Open/Close for Function Zone	na
	402	nn	999	Open/Close for Users > 00900	na
			00	General Area Open/Close	na
		01 - 98	01 to 98	Area 001-098 Open/Close	na

		99 - 250	99	Areas > 99 (99 to 250)	na
"nn" = Area Number					

Securitel Serial Channel Maps

SERIAL CHANNEL MAPS

All reports are sent as 2 digit pairs, up to 4 per poll. The tables below explain how these 2 bytes are used:

Opening/Closing Report First Digits

The 1st digit is used to report what Area is being opened or closed:

Decimal	Hex	Meaning
49	\$31	General Opening.
50 to 79	\$32 to \$4f	Opening of an Area between 01 and 30 inclusive.
80	\$50	Opening of an Area between 31 and 250 inclusive.
81	\$51	General Closing.
82	\$52 to \$6f	Closing of an Area between 01 and 30 inclusive.
112	\$70	Closing of an Area between 31 and 250 inclusive.

The general O/C Input will be used if the Securitel option "[G]eneral Open/Close" flag is set. A general opening will occur whenever an Area programmed for openings is turned off. A general closing will occur if all Areas that are programmed for closings and do not have the "[N]ot a general Area" flag set are on.

Opening/Closing Report Second Digits

The 2nd digit is used to report User ID information:

Decimal	Hex	Meaning
000	\$00	Poll response (Not implemented yet)
001 to 238	\$01 to \$ee	Users 001 to 238
239	\$ef	Users > 239
240	\$f0	System Reset
241	\$f1	TimeZone
242	\$f2	Function Zone
243 to 255	\$f3 to \$ff	Expansion

Alarm Report First Digits

Decimal	Hex	Meaning
006	\$06	New Alarm
008	\$08	Alarm Restore
014	\$0e	New Tamper
016	\$10	Tamper Restore
022	\$16	New Isolate
024	\$18	Isolate Restore

Control Module Alarm Report Second Digits

Decimal	Hex	Meaning
001 - 016	\$01 to \$10	Control Zones
017	\$11	Cabinet tamper
018	\$12	Internal siren tamper.
019	\$13	External siren tamper.
020	\$14	AC fail
021	\$15	Low battery.
022	\$16	LAN fuse tamper
023	\$17	Detector fuse tamper
024	\$18	LAN Comms status
025	\$19	Battery test fail
026	\$1a	Checksum alteration
027	\$1b	System power on reset.
028	\$1c	Phone Line Fail when required
029	\$1d	UART 1 problems
030	\$1e	UART 2 problems
031	\$1f	UART 3 problems
032	\$20	UART 4 problems
033	\$21	Zone self test fail
034	\$22	Time report
035	\$23	Manual trigger
036	\$24	Comms Backup
037	\$25	Comms Fail
038	\$26	Phone Line Fail when idle
039	\$27	Module Substitution
040	\$28	Pre-Arm 1 Test Start (on Odd Area)
041	\$29	Pre-Arm 1 Test Fail (on Odd Area)
042	\$30	Pre-Arm 2 Test Start (on Even Area)

General Alarm Report Second Digits

Decimal	Hex	Meaning
049	\$31	General LCD Cabinet tamper
050	\$32	General LCD Panic
051	\$33	General LCD Door Forced
052	\$34	General LCD Door Open
053	\$35	General LCD Duress
054	\$36	General LCD Deadman
055	\$37	General LCD PIN Attempts
056	\$38	General LCD LAN Fail
057	\$39	General LED Cabinet tamper
058	\$3a	General LED Panic
059	\$3b	General LED Door Forced
060	\$3c	General LED Door Open
061	\$3d	General LED Duress
062	\$3e	General LED Deadman
063	\$3f	General LED PIN Attempts
064	\$40	General LED LAN Fail
065	\$41	General Expander Cabinet tamper
066	\$42	General Expander Int. Siren Tamper
067	\$43	General Expander Ext. Siren Tamper
068	\$44	General Expander AC Fail
069	\$45	General Expander Low Battery
070	\$46	General Expander LAN Fuse Failure
071	\$47	General Expander Detector. Fuse Failure
072	\$48	General Expander LAN Fail
073	\$49	General Expander Battery test
074	\$4a	Not Used
075	\$4b	General Reader Cabinet tamper
076	\$4c	General Reader Low Volts
077	\$4d	General Reader Door Forced
078	\$4e	General Reader Door Open
079	\$4f	General Reader Spare
080	\$50	General Reader1 Card Attempts
081	\$51	General Raeder2 Card Attempts
082	\$52	General Reader LAN Fail
083 - 100	\$53 to \$64	Not Used

External Module Zone Alarm Second Digits

Decimal	Hex	Meaning
101 - 116	\$65 to \$74	Expander #1 first 16 Zones
117 - 132	\$75 to \$84	Expander #2 first 16 Zones
133 - 148	\$85 to \$94	Expander #3 first 16 Zones
149 - 164	\$95 to \$a4	Expander #4 first 16 Zones
165 - 180	\$a5 to \$b4	Expander #5 first 16 Zones
181 - 196	\$b5 to \$c4	Expander #6 first 16 Zones
197 - 204	\$c5 to \$cc	Terminal #001 to #008, Zone #1s
205 - 212	\$cd to \$d4	Reader #001 to #008, Zone #1s
213 - 223	\$d5 to \$df	Not Used
224 - 253	\$e0 to \$fd	General Area Zone Alarm, Areas 1 to 30 (No Restores)
254	\$fe	General Zone Alarm, Area > 30 (No Restores)
255	\$ff	Event unable to be mapped

Model 3000 & ACCESS 4000

SECURITY, ACCESS CONTROL & BUILDING AUTOMATION SYSTEM

INSTALLATION MANUAL

OVERVIEW

The 3000/Access 4000 provides the next generation in Access Control, Security and Building Automation Systems.

MODULAR DESIGN & EXPANDABILITY Modular hardware design provides the ability to adapt and expand a system to cater for virtually any configuration or application required - small or large. Large numbers of LCD Terminals, Input/Output Expanders and Reader Modules can share a secure, monitored LAN system utilizing a fast, efficient communications format. Using the recommended cabling, modules on the LAN can be installed hundreds of metres from the Control Module. Up to 250 modules can be connected on the LAN system, comprising up to 99 modules of any particular type. With the current range of modules available, this arrangement can provide over 3000 Zone inputs and over 3000 Auxiliaries on a single system.

THE MODULES. The heart of the system is the Control Module. This unit stores all data, communicates with all other modules connected to the system LAN, and reports alarms and system activity to the Central Station. To program and operate the system an Elite LCD Terminal is normally used. The LCD Terminal provides a 20 key backlit keypad, a backlit Liquid Crystal Display and connections for several Zone Inputs and Auxiliary outputs.

Universal Zone Expanders are used to provide additional Inputs (16 or 32), Sirens and Auxiliaries (8 or 32) in a system and can be installed remotely in suitable locations to greatly reduce the amount of cabling required to detectors and output devices. The Mini Expander Module provides low cost expansion when up to 8 Zones and Auxiliaries are required along with special event counting options (Event Counting available V3 or later).

Reader Modules are installed near the Door/s to provide Reader interfacing and up to 7 Inputs and 5 outputs for complete monitoring and control of the Door/s.

The Analogue Module (using V3 or later Control Module firmware) allows analogue values to be monitored and set points used to trigger control and/or report functions.

SYSTEM MANAGEMENT. Upload/Download software is available for system Programming and Management, allowing the option of local or remote connection with operator password protection. Windows based system management software is also available incorporating dynamic graphics capabilities and sophisticated monitoring and report generation facilities.

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Installing your Model 3000 / Access 4000 system.

Control Module Parts List

- Control Module PCB mounted on metal sub-chassis in metal box.
- Tamper switch bracket.
- Telephone line cable.
- Installation Kit containing:
 - Plug pack.
 - 7 x plastic “D” bungs.
 - 7 x 8 Way plug-on screw terminals.
 - Tamper switch.
 - 2 x 6.3mm Tamper switch connectors.
 - 2 x 4.8mm Battery terminal connectors.
 - 1 x 2 Amp Fuse.
 - 20 x 2k2 End-of-line resistors. (red-red-black-brown-brown)
 - 20 x 6k8 End-of-line resistors. (blue-grey-black-brown-brown)
- Spiral bound User Manual.
- User’s Quick Reference Card. (4 page booklet)
- Installation Manual. (This document)

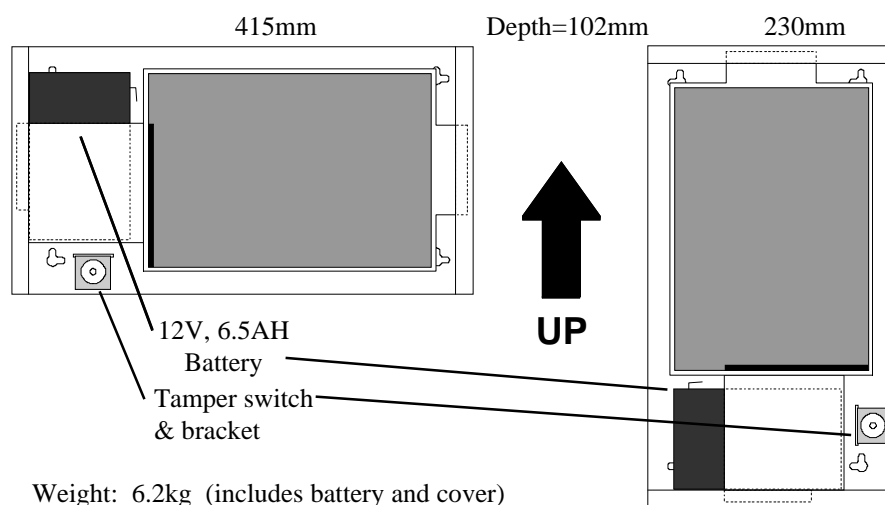
Disclaimer:

1. The manufacturer &/or it’s agents take no responsibility for any damage, financial loss or injury caused to any equipment, property or persons resulting from the correct or incorrect use of the system or it’s peripherals. The purchaser assumes all responsibility in the use of the system and it’s peripherals.
2. While every effort has been made to ensure the accuracy of this manual, the manufacturer assumes no responsibility or liability for any errors or omissions. Due to ongoing development, this manual is subject to change without notice.

Mounting the Control Module & Zone Expanders

(Enclosure may vary - Australian enclosure illustrated)

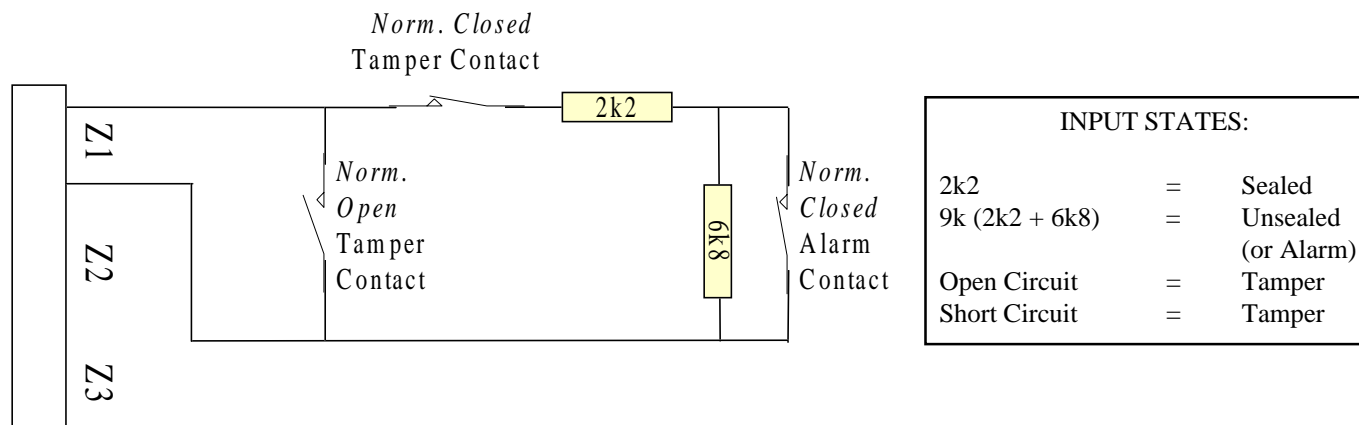
- The Control Module and Zone Expanders are supplied in metal boxes which must be secured to a flat, vertical surface using fasteners through the four mounting holes in the chassis.
- The tamper switch bracket must be positioned through the slot in the chassis, before the chassis is secured to the wall.
- Orientation of the box **MUST** be as per one of the illustrations below.
- Installation environment should be maintained at a temperature of 0° to 40° Celsius and 15% to 85% Relative humidity (non-condensing)



Wiring Diagrams

ZONE INPUT WIRING

Typical Detection devices with *Normally Closed* Alarm contacts and *Normally Closed* **OR** *Normally Open* Tamper Contacts are wired as follows:



Detection devices with *Normally Open* Alarm contacts are wired in exactly the same manner as above. When programming the Zone Input, however, the option to "Reverse Seal and Alarm conditions" must be set to [Y]es.

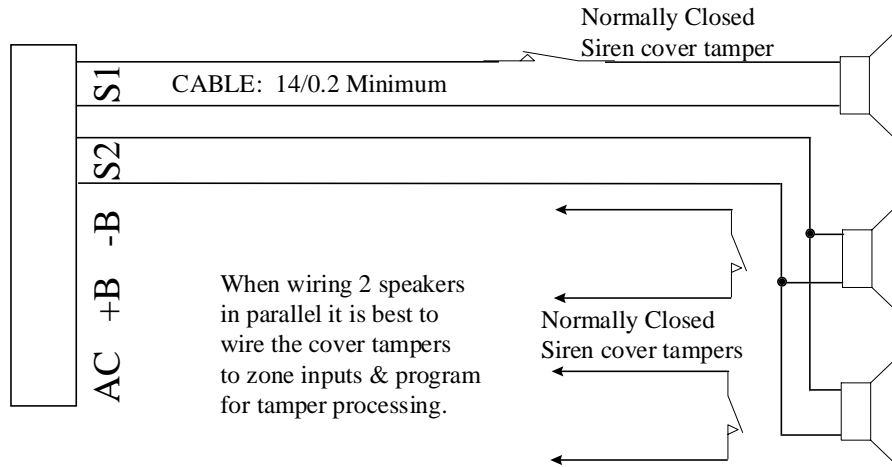
e.g.

↓

E01:Z01	X S R A N T . .
Options ->	n Y n n n n n n

SIREN WIRING

Maximum of two 8 Ohm Siren speakers may be connected to each siren driver, wired in parallel. Norm. Closed Siren cover Tampers may be wired in series with the speaker cable. This method utilizes the siren speaker circuit monitoring.

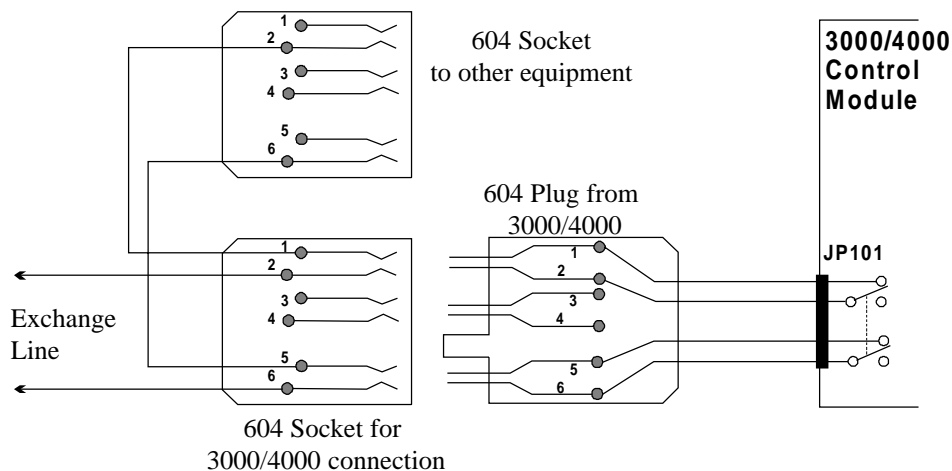


DIALLER LINE

Mode 3 socket wiring diagram for Dialler reporting formats. (e.g. IRfast and Contact ID)

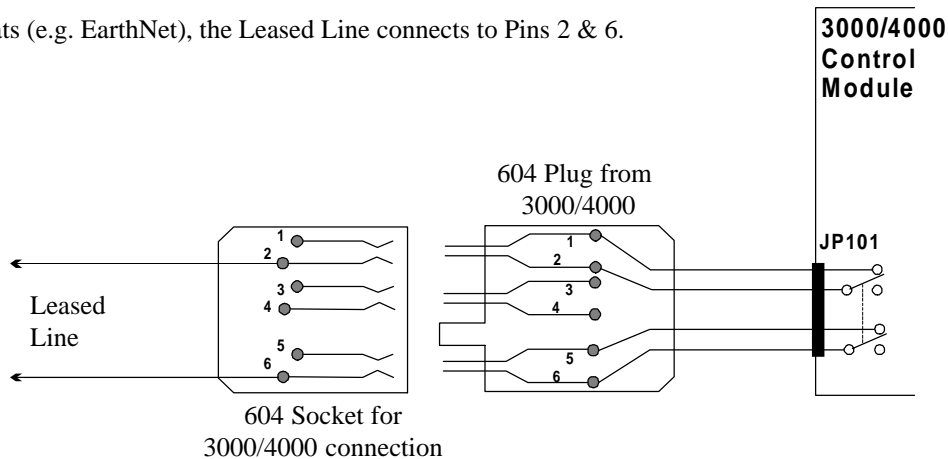
Phone Line IN: Pins 2 & 6

Phone Line OUT: Pins 1 & 5



DIRECT LINE

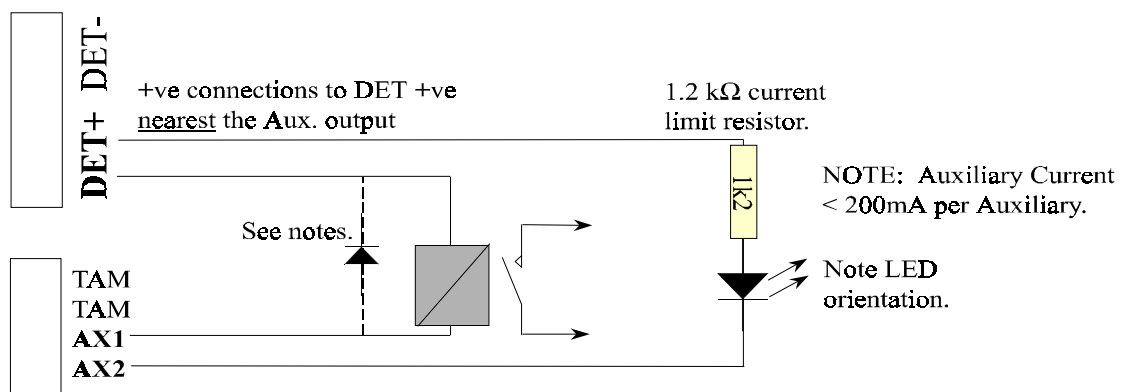
For Direct Line formats (e.g. EarthNet), the Leased Line connects to Pins 2 & 6.



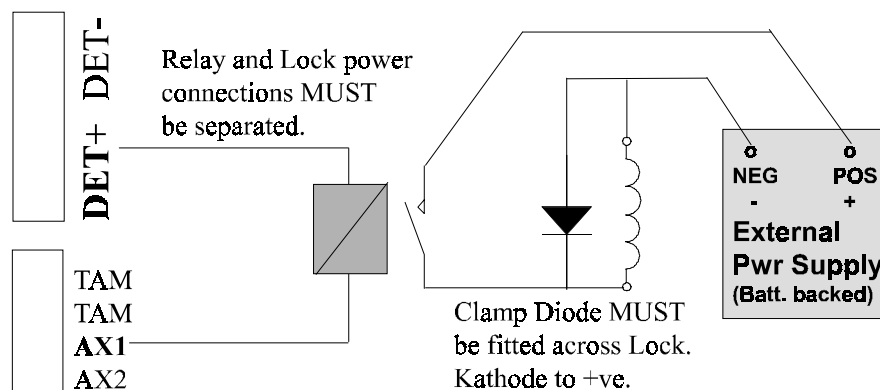
AUXILIARY WIRING

Rules for Auxiliary wiring on any module in the 3000/Access 4000 system.

- Aux's 1 & 2 on Control & Expander Modules can switch up to 500mA continuous and are suitable for inductive loads. (Except for Lock strikes, etc.)
- Max current on any other individual Auxiliary must be less than 200mA.
- On any module with Plug pack; Auxiliaries + LAN current + Detectors must be less than 700mA, or an external power supply should be used.
- The Positive connection of the device must be wired back to the Positive connection nearest the Auxiliary. i.e. On the same module.
- If an external power supply is used to power the device, a good common Negative connection **MUST** exist between the power supply and the module.
- Clamp diode should be fitted across inductive loads. Kathode (bar) to +ve.



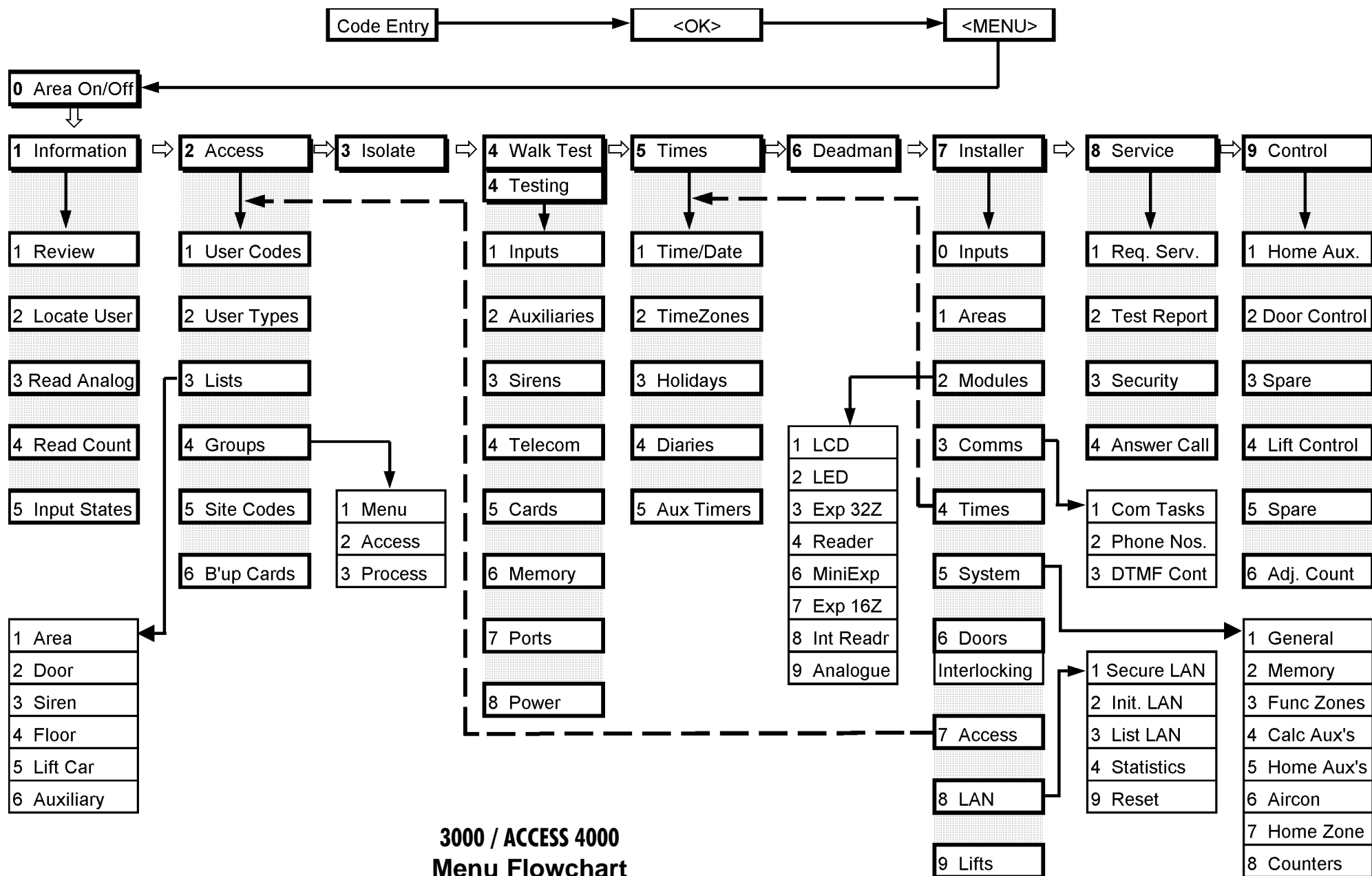
Locks are activated via a relay. External power supply is used for lock power to prevent voltage spikes reaching the Concept equipment, provide longer battery backup & minimise the possibility of earth loops.

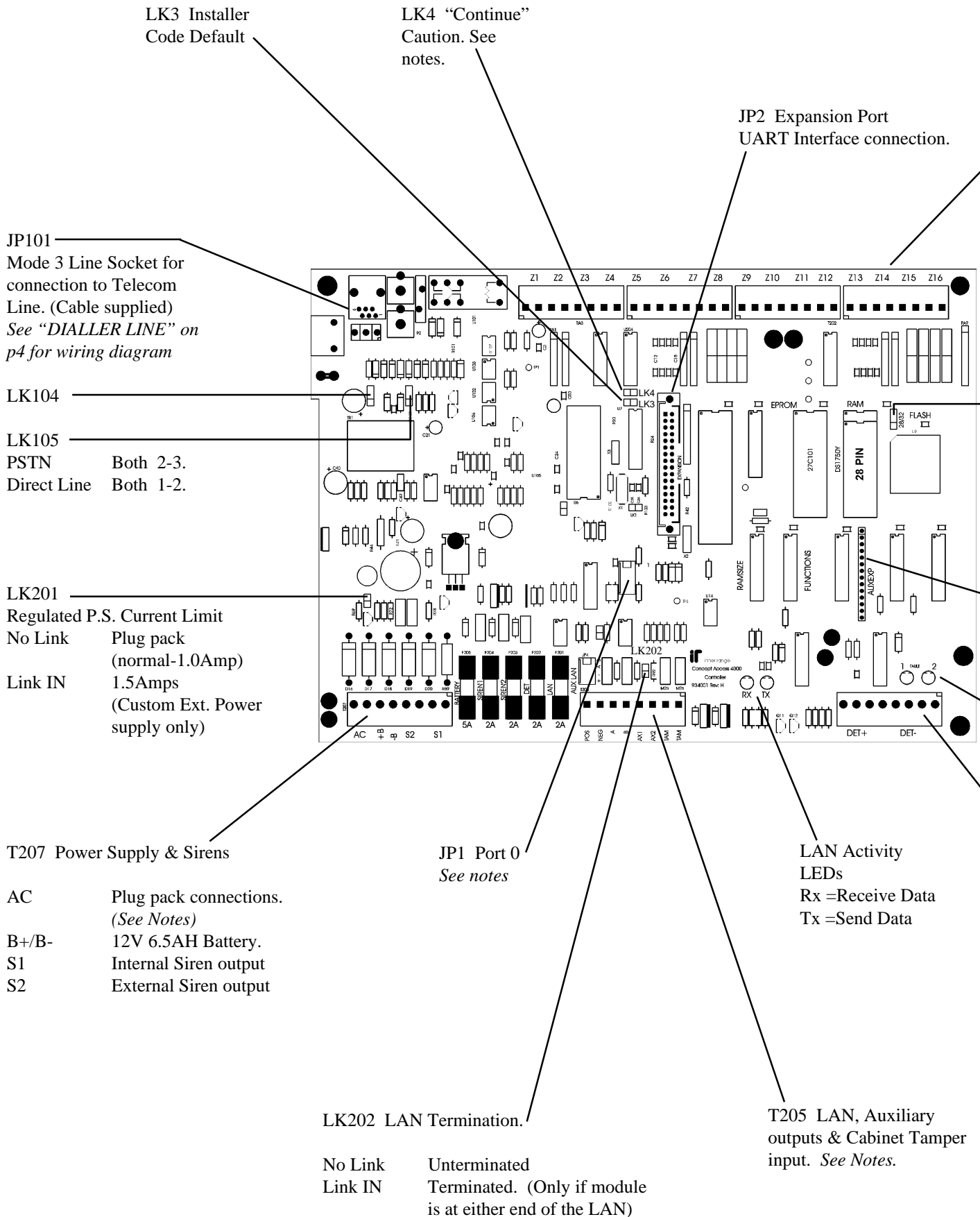


LK2	RAM configuration.	1-2	32k DS1230Y (28 Pin)
		2-3	128k DS1245Y (32 Pin)
		2-3	512k DS1247Y (32 Pin)
LK3	Installer Code Default. Disconnect AC and Battery from Control Module; Short LK3 Pins; Reconnect power, then remove the short. Installer code will be defaulted to “01”.		
LK4	Continue. Used when required to rectify Memory problems. CAUTION! Will erase all programming if shorted to initialise memory.		
LK102/ LK103	Special. Only changed if advised by the Distributor.		
LK104/ LK105	PSTN / Direct Line selection. Both links 1-2 Direct Line (e.g. EarthNet) Both links 2-3 PSTN (Dialler formats: IRfast, Contact ID, etc.)		
LK201	Regulated Power Supply Current Limit setting. No Link 1.0 Amp. Normal setting for Plug pack connection. Link IN 1.5 Amp. Special custom external supply used.		
LK202	LAN Termination. No Link. Unterminated. Link not fitted unless unit is first or last module on the LAN system. Link IN. Terminated. Link fitted when unit IS the first or last module on the LAN system. (See “LAN SYSTEM” details beginning on page 10 of this manual for more information)		

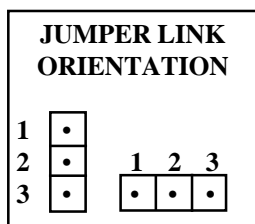
T205	<div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle; text-align: center;"> POS NEG A B AX1 AX2 TAM </div> <div style="display: inline-block; vertical-align: middle; font-size: 4em; line-height: 1;"> } </div> </div> <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> LAN connections. <i>(See “LAN SYSTEM” details in this manual for more information)</i> Auxiliary output 1 Auxiliary output 2 <i>(See “AUXILIARY WIRING” in this manual for wiring diagrams)</i> Terminals for connection of cabinet tamper switch. No End-of-line resistors necessary. </div>
T206	Positive and Negative Detector Power connections. Note that total current drawn by devices connected to these terminals, plus devices connected to Auxiliaries and the LAN power connections, must not exceed 700mA.
T207	<div style="display: flex; align-items: flex-start;"> <div style="margin-right: 20px;">AC</div> <div> Terminals for 16Volt AC Plug pack connection. (supplied) <div style="margin-left: 20px;"> Plug pack specs: Input: 240VAC RMS +/-5%. Output: 16VAC RMS 1.5A </div> </div> </div> <div style="margin-top: 10px;"> <div style="display: flex; align-items: flex-start; margin-bottom: 10px;"> <div style="margin-right: 20px;">+B</div> <div>Positive connection to 12Volt 6.5 AH Battery.</div> </div> <div style="display: flex; align-items: flex-start; margin-bottom: 10px;"> <div style="margin-right: 20px;">-B</div> <div>Negative connection to 12 Volt 6.5 AH Battery.</div> </div> <div style="display: flex; align-items: flex-start; margin-bottom: 10px;"> <div style="margin-right: 20px;">S1</div> <div>“Internal” monitored Siren speaker connections. <i>See “SIREN WIRING” on p4 for wiring diagrams.</i></div> </div> <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 20px;">S2</div> <div>“External” monitored Siren speaker connections. <i>See “SIREN WIRING” on p4 for wiring diagrams.</i></div> </div> </div>

JP1	Port 0 connection. Using the “Port 0 Interface cable” (IRU3000), allows <u>temporary</u> connection of a PC for Upload/Download programming. This Port shares the on-board modem with the Line interface and therefore MUST NOT be used as a permanent connection.
JP2	Header for connection of IRPX3000 UART Port Board. A UART Board and appropriate cable/s must be fitted if Printer, PC, External Modem or Securitel Interface etc. is being used. When fitting the UART board, disconnect power and battery from the Control module and align the connectors carefully.



THE CONTROL MODULE PCB

T201 to T204. Zone Inputs.
See "ZONE INPUT WIRING"
on p3 for details.



LK2 RAM Configuration

2-3 32k DS1230Y (28 Pin)
1-2 128k DS1245Y (32 Pin)
1-2 512k DS1247Y (32 Pin)
Note orientation and position of
28 Pin IC in bottom of socket.

JP3 Auxiliary
Expander Header
connection for
IRA3000 8 Auxiliary
Expander.

CONTROL MODULE
FAULT LED
DIAGNOSTICS
See table on this page.

T206
Detector Power
connections.

CONTROL MODULE FAULT LEDs

LED1	LED2	EXPLANATION / REMEDY
ON	OFF	Ram Fault. RAM faulty, in backwards, out by one pin or LK2 not correct. Power off, fit correctly or replace.
OFF	ON	Non-volatile RAM not initialised. Short LK4 to continue. (Erases all programming)
ON	ON	Configuration Problem. Return options memory chip to Distributor.
Fast Flash	OFF	Hardware Problem. (EEPROM) Return unit for service.
OFF	Fast Flash	Wrong GAL for NVRAM size. (Illegal Memory size) Contact the Distributor.
Fast Flash	Fast Flash	Wrong GAL for required options. (Illegal option/s) Contact the Distributor.
Fast Flash	ON	Faulty Program chip. (EPROM) Return unit for service.
ON	Fast Flash	No default for installer code. Short LK4 to continue. Contact Owner/Master Code holder.
Slow Flash	Slow Flash	Secure Micro Version wrong. Contact the Distributor.
Slow Flash	ON	Lock bits not set. Contact the Distributor.

EXPANDER / READER MODULE FAULT LEDs

RX	TX	EXPLANATION / REMEDY
ON	ON	Module is un-addressed.
OFF	ON	Module type unknown. Firmware upgrade required to Control Module.
Flash	ON	Duplicate Module. This module number is already in use by a module of the same type.
Flash	Flash	Module number selected is too big for Control Module RAM size. Select a lower Module number.
ON	OFF	Too many modules on Network for Control Module RAM size.

LCD TERMINAL ERROR MESSAGES

MESSAGE	EXPLANATION / REMEDY
No Rx	Terminal requesting address from Control Module, but no reply being received.
Can't Tx	Terminal cannot send data because LAN is being held in "start" condition. Check for A/B reversed.
Exists	Module number selected already being used by another LCD Terminal. Choose another number.
Too Big	Module number selected is too big for Control Module RAM size. Select a lower Module number.
Too Many	Too many modules on Network for Control Module RAM size.

LAN SYSTEM OVERVIEW

The 3000/Access 4000 LAN (Local Area Network) is a 3 or 4 wire network used to connect the modules in a system. Up to 250 modules can be connected on the LAN system, comprising up to 99 modules of any particular type. Using the recommended cable types, modules on the LAN can be installed many hundreds of metres from the Control Module.

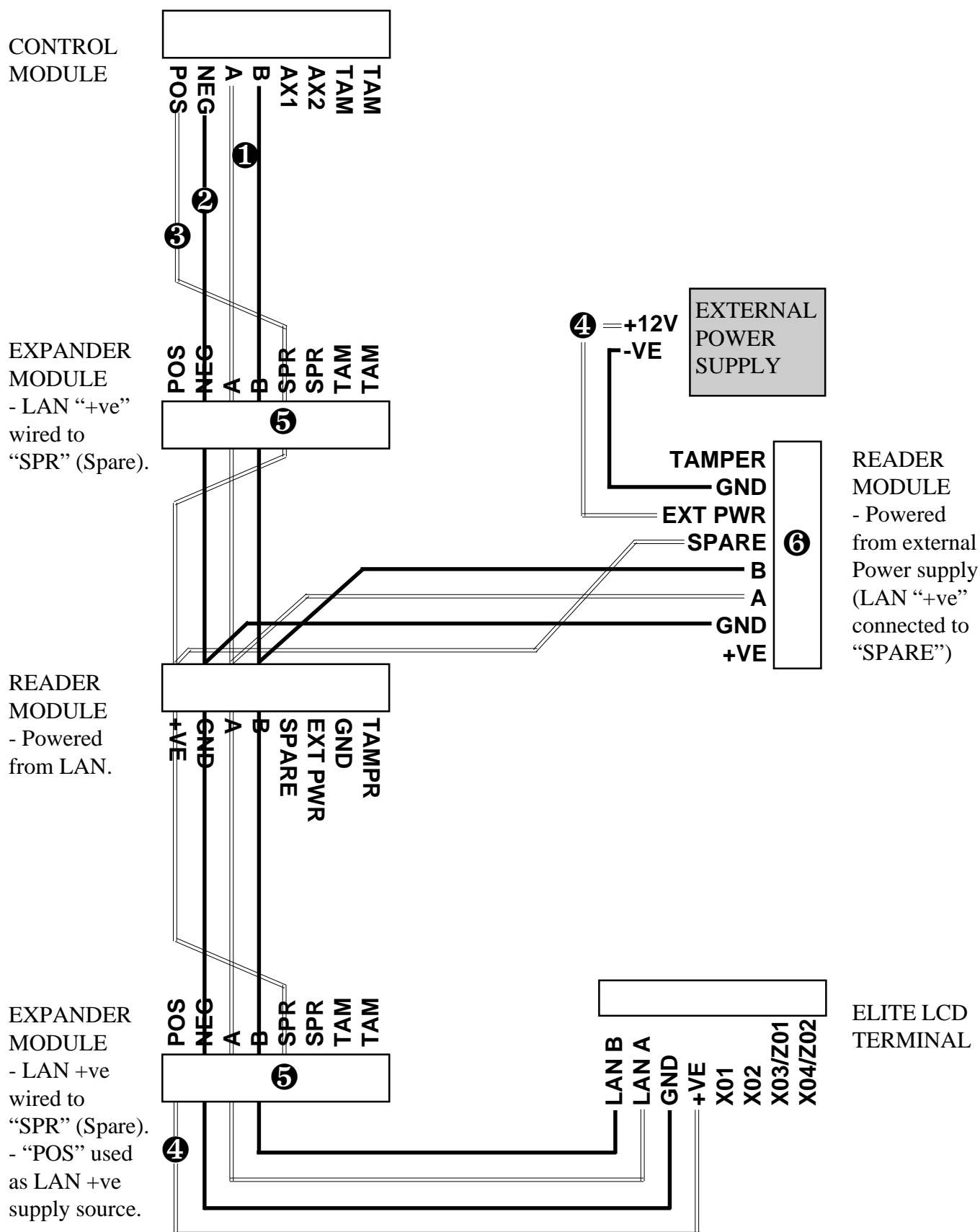
Data encryption ensures secure LAN communications at all times, while the programmable supervisory polling system continuously monitors the network to detect cable tamper, cable fault conditions, module off-line and module substitution. The data format used in the 3000/Access 4000 LAN has been developed to ensure fast, reliable communications regardless of the size of the system.

For larger systems and complex sites, LAN Isolators are used to provide opto-isolation between sections of the LAN, eliminate potential earth loop problems, improve surge and lightning protection, provide signal level restoral for improved performance over longer cabling distances and offer a monitored "loop" LAN wiring option for a higher level of LAN integrity.

CONNECTING MODULES TO THE LAN. *Refer to diagram opposite.*

- "A" & "B" signal connections are wired in parallel across the system using twisted pair cable. ❶
See "Cable Types" details on page 12.
 The "NEG" connection (0V reference) must also be wired to every module. ❷
- An optional + 12 V connection (LAN +ve) may be used to provide power to modules that do not have their own Plug pack and on-board power supply. e.g. LCD Terminals. ❸
- The + 12 V connection (LAN +ve) used to power LCD Terminals, etc. can be derived from any module with it's own Plug pack and on-board power supply (Control Module and Expander Modules), or from a separate external power supply. ❹
CAUTION ! Never connect the +ve (POS) of two power supply sources together. i.e. Control Module LAN POS, Expander Module LAN POS, or External Power Supply +ve. This is one of the reasons that "SPARE" wiring terminals are provided on most types of modules.
- When wiring the LAN to modules that are powered from their own Plug pack (e.g. Zone Expanders), use the "Spare" terminal (labelled "SPARE" or "SPR") for the LAN +ve connection. ❺
NOTE: LAN "POS" and "NEG" should not be used to power detectors, relays, etc. Always use "DET+" and "DET-" on the module to power these devices.
- When wiring the LAN to modules that are powered from an external Power Supply (e.g. Reader Modules), use the "Spare" terminal (labelled "SPARE" or "SPR") for the LAN +ve connection. ❻
- A DC Voltmeter may be used to check that the LAN will operate reliably. *See "LAN Voltage Testing" on Page 16.*

Connecting Modules to the LAN.



CABLE TYPES

- **TWISTED PAIR** Cable **MUST** be used to connect the LAN.

Two pair Telephone or LAN cable is suitable as it provides all 4 conductors required. One twisted pair for "A" & "B", and the other for "POS" & "NEG". Unshielded cable is quite acceptable, however, in situations where electrical storms or high levels of electrical interference are a problem, shielded 2 pair cable may be used. Examples of suitable 2 pair cables:

Unshielded. *Figure 1.*

Olex TJC590AA002
Tycab TIC6105 †
MM MegaTwistpatch ‡

Shielded (All Multistrand) *Figure 2.*

Olex JEIP87AA002
Tycab DPF4702
MM B2002CS
Belden 8723 *
Tycab DQQ47025 *
Garland MCP-2S

† 3 Pair.
‡ Multistrand (7/0.2).
* Individually screened pairs.

- If **SHIELDED CABLE** is used, **DO NOT** use the shield as a **negative connection** & do not allow the shield to make contact with Negative, Ground, or any other wiring or metalwork within the system. Shields should only be terminated to a Protective Earth at ONE END of the cable. ❶ See "System Earthing" below. If no suitable earth point is available at a module location, the shield can be looped back to the shield of the previous length of cable. ❷

- **LAN POWER CABLING.** Separate heavy duty Figure 8 cable (24 / 0.20 recommended) should also be run for "POS" & "NEG" over longer distances if used for powering modules. e.g. LCD Terminals. *Figure 3.*

LAN "POS" current required:

Max. Cabling Length for LAN +ve (POS) & GND (NEG)

	Twisted pair	Fig 8. 14 / 0.20	Fig 8. 24 / 0.20
60mA (e.g. 1 LCD Terminal)	200 metres	400m	640m
120mA (e.g. 2 LCD Terminals)	100 metres	200m	320m
180mA (e.g. 1 Reader Module - Reader pwr not incl)	62metres	130m	210m
250mA (e.g. 4 LCD Terminals)	50 metres	100m	160m
500mA (e.g. 8 LCD Terminals)	25 metres	50m	76m

Remember to allow for any extra current required by Detectors, Auxiliaries, Readers, etc:

NOTE: Lock strikes must not be powered from the LAN.

Relay (1A contacts)	approx. 25mA	Small Proximity reader (~10cm read range)	~50 to 120mA
Relay (5A contacts)	approx. 45mA	Standard Prox reader (~15cm read range)	~120 to 180mA
PIR	15 to 25mA typical.	Magnetic Swipe reader.	~15mA

Figure 1.

Twisted pair communications cable.

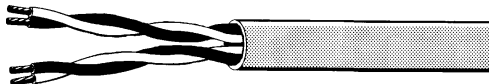


Figure 2.

Shielded, twisted pair communications cable

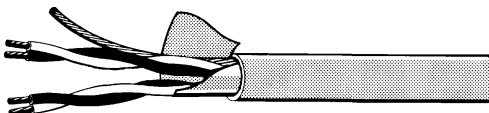


Figure 3.

Heavy duty Figure 8 cable. 24 / 0.20
Used for LAN +ve & GND on long cable runs.



SYSTEM EARTHING

- **DO NOT CONNECT A SYSTEM TO EARTH.** This includes all Modules, Input, & Output devices. Plug packs do not have an earth wire as earthing is not required. Also ensure that mounting screws etc., or peripherals connected to modules do not provide an earth connection to the module. This is to avoid earth loops occurring.
- A Printer, PC, modem, etc. connected to the Control Module may provide a connection to earth via the Serial cable. This is acceptable but is the only exception to the above rule.
- **LIGHTNING PROTECTION.** In multi-building installations and on longer cable runs, shielded cable may be used to provide added protection against lightning strike. Each individual shield should be terminated to a Protective Earth point such as an earth stake, building earth (metal building framework) or water pipe. ❶ It is very important to ensure that the shield makes no contact with Negative, Ground or any other wiring within the system.
LAN Isolator/s can also be included in a Lightning protection scheme to electrically isolate different sections of the LAN at the point where LAN cabling enters/exits each building, or on cable runs that are more exposed to lightning strike.

SYSTEM CABLING CONFIGURATION *Figure 4 & Figure 5.*

- Avoid installing the LAN cable with mains power cables & any other cables likely to cause interference wherever possible
- No module is to be more than 1.5km (1500 metres) cable length from the Control Module OR from a LAN Isolator “LAN 2” or “LAN 3” Port. ③ (LAN Isolator/s can be used to extend the maximum cabling distance)
- **TOTAL LAN CABLING** in a system without LAN Isolators should not exceed 2000 metres, and/or 64 Modules. ④
If the total amount of LAN cable will exceed 2000 metres, and/or there are more than 64 modules to be connected, LAN Isolator/s must be used to separate the LAN system into sections and maintain optimum LAN performance. i.e. Include one LAN Isolator for every 2000 metres of LAN cabling and/or for every 64 Modules connected. ⑤

LAN TERMINATION *Figure 4 & Figure 5.*

- **The LAN MUST be Terminated** for optimum performance, by ensuring that the Termination Resistor (470 Ohm*) is “IN” on the first and last modules in the LAN network. Terminated modules are indicated with a “T” on the illustrations. ⑥
(Termination is put “IN” with a jumper link or a DIPswitch, depending on the module type) * See Note 1 on Page 15.
- **MULTIPLE CABLE RUNS.** In systems where there are multiple cabling runs going out from the Control Module or LAN Isolator (i.e. “star” configuration), Termination is fitted on the modules at the end of the two longest runs. ⑦

Figure 4.
Simple LAN configuration.

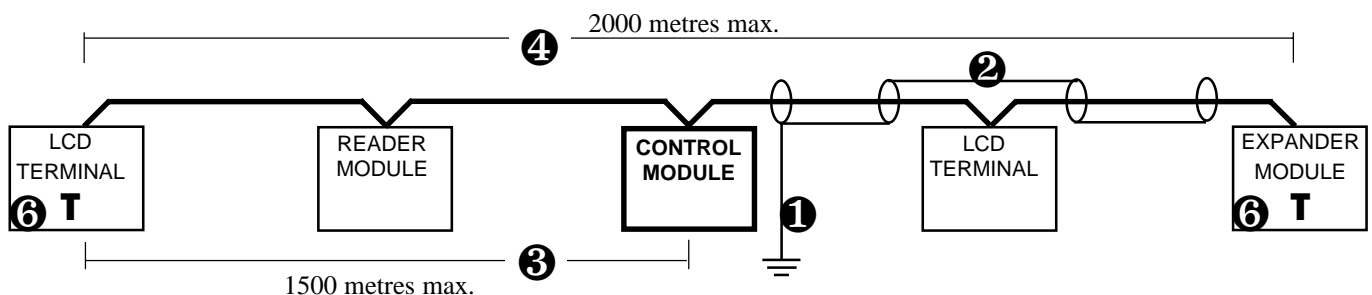
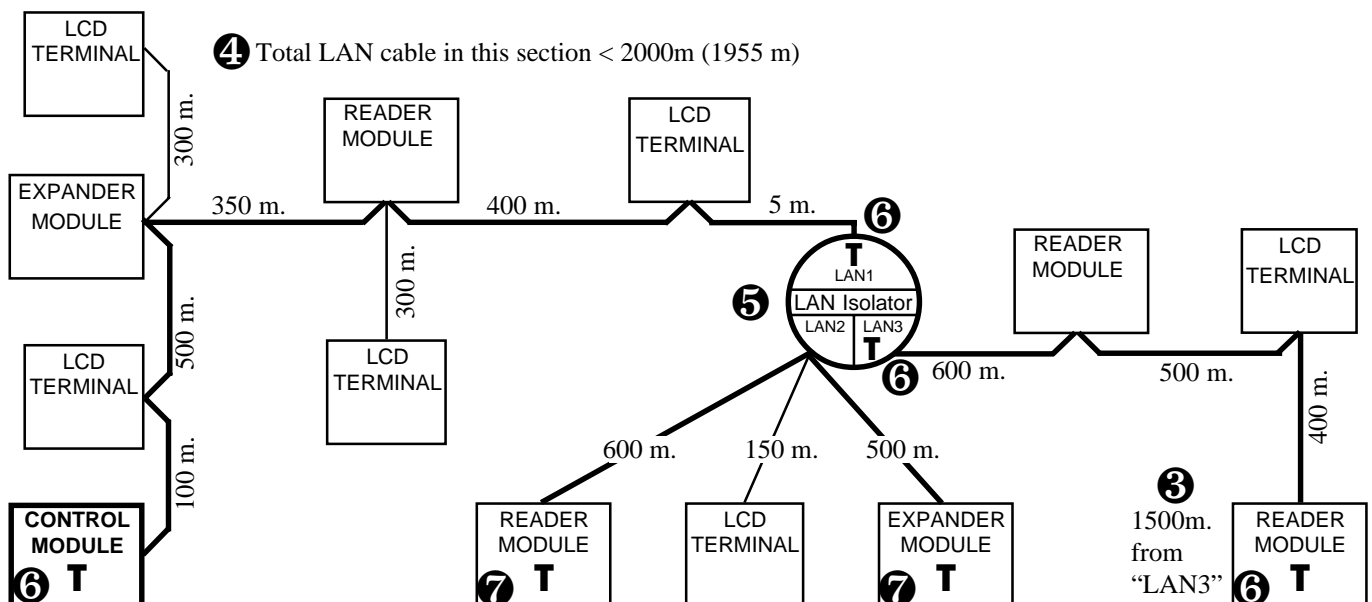


Figure 5.
Complex LAN configuration.



LAN TROUBLESHOOTING FLOWCHART

BEFORE SYSTEM POWER UP

(No Power connected to modules
AND No batteries connected)

A1. WHERE POSSIBLE, PHYSICALLY CHECK:

- LAN A & B connections not reversed on any module.
- No modules connected to earth. (via mounting bolts, ext. power supplies, input/output cabling, etc.) Note that the Control Module may be connected to earth via external equipment connections. i.e. Printer, PC, modem, etc. If so, this must be the only earth connection in the system.
- Only two modules in the system are terminated.



A2. CHECK FOR SHORT CIRCUITS ON THE LAN

(No Power connected AND No batteries connected)
METER ON OHMS RANGE

Check at the Control Module for short circuits between:

- LAN A & B.
- LAN A to +ve and -ve.
- LAN B to +ve and -ve.

Note:DC Resistance in the LAN cable (~0.18Ohms/metre) can mask short circuits that exist on longer cable runs.



A3. CHECK FOR CORRECT LAN TERMINATION

(No Power connected AND No batteries connected)
METER ON OHMS RANGE

Measure between LAN A & LAN B on the Control Module:

- 170 to 300 Ohm.* OK. (System with up to 32 modules)
- 140 to 270 Ohm.* OK. (System with up to 64 modules)
- Lower value. More than two modules terminated or Short cct across LAN A & LAN B.
- Higher value. Less than two modules terminated or Open cct on LAN A &/or B wiring.

* See Notes 1 & 2.



POWER UP SYSTEM & CONNECT BATTERIES

A4. CHECK CONTROL MODULE OPERATION

DC POWER CHECK. With Meter on DC Volts range, measure between LAN +VE & LAN -VE (GND) on the Control Module:

- 11V to 14V. OK.
- <11V. Too many devices being powered from the Control Module or Battery Flat.

Check FAULT LEDs on Control Module:

- Both Off. OK. Proceed to step A5.
- Any other state. Refer to "Control Module Fault LEDs" table on Page 9.



A5. DETERMINE THE TYPE OF LAN PROBLEM

A. SOME MODULES HAVE INTERMITTENT COMMUNICATIONS PROBLEM.

Proceed to Step B1, "Intermittent LAN problems". ⇒

B. SOME/ALL MODULES NOT COMMUNICATING AT ALL. Proceed to Step A6.



A6. IS THE LAN COMPLETELY DEAD ?

YES. Proceed to Step C1, "LAN Dead". ⇒ ⇒

NO. (Some Modules not communicating, others OK)
Proceed to Step A7.



A7. CHECK STATUS OF PROBLEM MODULE/S

DC POWER CHECK. Meter on DC Volts range. Check for 11 to 14 Volts between LAN +VE & LAN -VE (GND) on the problem module. See Note 3.

Check FAULT LEDs (TX & RX LEDs) OR LCD Display on problem Module:

Both LEDs Off OR Display has no "Module ..." messages.
Proceed to step A8.

Any other state. Refer to "Expander/Reader Module Fault LEDs" table or "LCD Terminal Error messages" table on Page 9.



A8. TEST LAN VOLTAGES AT PROBLEM MODULE/S

Perform LAN Voltage Checks at the problem Module/s.
Refer to the table "LAN Voltage Testing" on Page 16.



A9. SUBSTITUTE MODULE/S

If the troubleshooting procedure fails to locate any power, wiring or termination problems, you may have an equipment fault. Replace the module/s suspected of causing the problem.

⇒ ⇒ ⇒ ⇒ ⇒

LAN DEAD

⇒ C1. TEST VOLTAGES AT CONTROL MODULE

Perform LAN Voltage Checks at the Control Module.
Refer to the table “*LAN Voltage Testing*” on Page 16.

If this fails to locate the problem, *proceed to Step C2.*

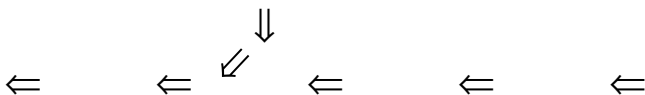


C2. ISOLATE PROBLEM CABLING OR MODULE/S

Disconnect all LAN wiring from Control Module.
Reconnect one LCD Terminal and ensure that it communicates. (If it doesn't, follow Steps A7 & A8)

Reconnect the LAN one module at a time until a problem module, or section of cabling kills LAN communications when reconnected.

With the problem area identified, *proceed to Step A8.*



1. LAN TERMINATION CHECK

Very early 3000 products (Australia & NZ only) had 120 Ohm Termination resistors which results in lower measurements (~70 to 140 Ohms). When expanding these systems, take termination OUT on the existing modules, and put termination IN on two of the new modules. Alternatively, take termination OUT on the existing modules and fit a 470 Ohm resistor between LAN A & B on those two modules instead. **NOTE:** This is only necessary if expanding the system, or if there are communication problems. If the system is operating reliably, no modification is necessary.

INTERMITTENT LAN PROBLEMS

B1. WHICH MODULES ARE INTERMITTENT ?

Using an LCD Terminal or Review Logging via Upload/Download software, check Review Data for “Module Lost” and “Module Found” messages.

Each message will also identify the Module type and number. Note the problem module/s.

Proceed to Step B2.



B2. IS ANOTHER EVENT CAUSING THE MODULE TO BE LOST ?

Look at the Review Messages immediately preceding the “Module Lost” messages for any event that repeatedly coincides with the loss of module/s, or if the loss of module/s occurs at, or around, the same time of day. Look for messages such as Door Un-lock/Lock, Siren On, Auxiliary On, etc., and note the times when the “Module Lost” messages occurred.

YES. Ancillary devices & external equipment (e.g. electrical machinery) can produce voltage spikes, electrical noise and excessive current drain.

If the LAN, Power & Auxiliary circuits are not wired correctly or Earth loops exist, these devices can interfere with LAN communications.

If such an event does coincide with loss of comms, reproduce the sequence of events to confirm the effect, then check any associated wiring circuits accordingly.

NO. *Proceed to Step A8*

NOTES:

2. TERMINATION RESISTOR CHECK

To determine if a module is fitted with a 120 Ohm or 470 Ohm Termination Resistor, ensure that TERM is “IN”, disconnect the module from the LAN, remove power, and measure across LAN A and B on the module with the meter on the OHMS range.

3. MODULE POWER TEST

The Test Menu can be used to check LAN Power conditions. Logon to the LCD Terminal, then press <MENU>, 4, 8. This activates the power test, and the results will be displayed on the LCD Terminal, and in the review memory. See “Concept 3000 Programmer’s manual” Rev 2.3 p154 for more information.

LAN VOLTAGE TESTING**NOTES:**

1. These Voltage checks should be done with no (or minimal) communications traffic on the LAN. To ensure this:
 - a) Check that poll times for all addressed modules in the system are set to the default 60 / 120 seconds or greater.
 - b) Disconnect LAN A and LAN B from any unaddressed modules on the LAN, as these modules will be constantly attempting to send messages to the Control Module.
 - c) Ensure that Terminals, Readers, etc. are not being used while performing tests.
 Before proceeding with Voltage tests, check the "RX" LED on the Control Module to confirm that there is minimal LAN activity.
2. To determine if a problem exists on the module under test, or elsewhere on the LAN, these voltage tests can be performed:
 - a) With the module connected to the LAN.
 - b) On the cable connections with the module disconnected from the LAN.

Test Point + PROBE	Test Point - PROBE	EXPECTED RESULT	PROBLEM/ REMEDY
LAN +ve	LAN -ve or GND	11V to 14V DC	0V. Open circuit LAN +ve connection, or short cct between LAN +ve and LAN -ve. <11V. Too many modules powered from the LAN power supply source. Length (or guage) of LAN cabling causing excessive Voltage drop on the cable.
LAN B	LAN A	200 to 400mV DC	<200mV. Short cct between LAN A & B. More than 2 modules terminated in this section of LAN. >400mV. LAN A &/or LAN B Open circuit. Less than 2 modules terminated in this section of LAN <0V (Negative reading). LAN A & LAN B connections reversed.
LAN A	LAN -ve or GND	200mV to 2.5V DC	<200mV / >2.5V DC. System may have more than one module connected to an earth point, causing earth loop/s. Ensure that no more than one module in the system is connected to earth. Remember that a module may be connected to earth via a peripheral device or it's cabling. e.g. PC, Printer, External power supply, Detector, Output device, etc. If installation methods &/or system configuration makes multiple earth points unavoidable, install LAN Isolator/s at suitable points in the LAN system to isolate the earthed section/s
LAN B	LAN -ve or GND	200mV to 2.5V DC	As above.

Designed & manufactured in Australia.

Model 3000 & ACCESS 4000

CE Control Module 995001 / 995002

SECURITY, ACCESS CONTROL & BUILDING AUTOMATION SYSTEM

INSTALLATION MANUAL

OVERVIEW

The 3000/Access 4000 provides the next generation in Access Control, Security and Building Automation Systems.

MODULAR DESIGN & EXPANDABILITY Modular hardware design provides the ability to adapt and expand a system to cater for virtually any configuration or application required - small or large. Large numbers of LCD Terminals, Input/Output Expanders and Access Control Modules can share a secure, monitored LAN system utilizing a fast, efficient communications format. Using the recommended cabling, modules on the LAN can be installed hundreds of metres from the Control Module. With the current range of modules available, this arrangement can provide over 2000 Zone inputs and over 2000 Auxiliaries on a single system.

THE MODULES. The heart of the system is the Control Module. This unit stores all data, communicates with all other modules connected to the system LAN, and reports alarms and system activity to the Central Station via Dialer, Direct Line, GSM modem and other formats. To program and operate the system an Elite LCD Terminal or any of the PC based system management tools mentioned below are normally used. The LCD Terminal provides a 20 key backlit keypad, a backlit Liquid Crystal Display and connections for several Zone Inputs and Auxiliary outputs.

Universal Zone Expanders are used to provide additional Inputs (16 or 32), Sirens and Auxiliary Outputs (8 to 32) in a system and can be installed remotely in suitable locations to greatly reduce the amount of cabling required to detectors and output devices. The Mini Expander Module provides low cost expansion when up to 8 Zones and Auxiliaries are required along with special event counting options (Event Counting available V3 or later).

Door and Lift Access Modules are installed near the Door/s or in Lift Cars to provide Reader interfacing plus all the Inputs and outputs for complete monitoring and control of the Door/s and/or Lifts.

The Analogue Module allows analogue values to be monitored and set points used for trigger control and/or report functions.

SYSTEM MANAGEMENT. WDirect Upload/Download software is available for system Programming and Management, allowing the option of local or remote connection with operator password protection. Windows based system management software is also available incorporating dynamic graphics capabilities and sophisticated monitoring and report generation facilities.

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Electrical Specifications

Power Supply Input:	Transformer Input Voltage:	240V AC -10% / +10%. 50 Hertz.
	Transformer Output Voltage:	16.5V AC. 50 Hertz.
	Current Consumption:	Maximum 500 milliAmps from 240V AC Source.
	Fuse Protection:	Separate AC mains input fuse. 500 milliAmps. M205 (20mm) (Units made prior to September 2000 have an 8AG -25mm fuse)
Power Supply Output:	PCB AC Input Voltage:	16 to 18V AC. 50 Hertz.
	Battery Capacity:	12V 6.5 AH. Sealed Lead Acid Battery.
	Battery Input Fuse:	5 Amperes.
	Current:	Total combined current required by devices connected to LAN "POS" and "DET+" must not exceed 1.2 Amperes.
	Fuse Protection:	Separate 2 Ampere fuses provided for: Siren1, Siren2, LAN Power & Detector Power.

ALWAYS REPLACE FUSES WITH THE SAME FUSE TYPE AND VALUE!

NOTE: See data supplied with detectors and output devices for actual current consumption of items connected to the module.

Mechanical Specifications

Dimensions:	Length: 435 mm.	Width: 320 mm.	Depth: 112 mm.
Weight:	9.5 kg. (Includes mains transformer, battery and cover)		

Installing your Model 3000 / Access 4000 system.

Control Module Parts List

- Control Module PCB mounted on metal chassis in metal box.
- Tamper switch bracket.
- Telephone line cable. (Note: Non-standard configuration. Only suitable for use with this product)
- Installation Kit containing:
 - 9 x plastic "D" bungs. Must be fitted to all unused cable entry cutouts in the cover.
 - 1 x Special AC Powercord entry "D" bung.
 - 6 x 8 Way plug-on screw terminals.
 - 8 x 2 Way plug-on screw terminals.
 - Tamper switch.
 - Tamper switch bracket.
 - Telecom Line cord.
 - 2 x 6.3mm Tamper switch connectors.
 - 2 x 4.8mm Battery terminal connectors.
 - 1 x 2 Amp M205 (20mm) Fuse. (Spare)
 - 20 x 2k2 End-of-line resistors. 16 x Zone Inputs, 4 x Spare. (red-red-black-brown-brown)
 - 20 x 6k8 End-of-line resistors. 16 x Zone Inputs, 4 x Spare. (blue-grey-black-brown-brown)
- Spiral bound User Manual.
- User's Quick Reference Card. (4 page booklet)
- Installation Manual. (This document)

In countries where the Mains input cable is not pre-fitted, the following parts are also supplied:

- 1 x Plastic Cable grommet.
- Sufficient mounting screws to assemble all parts to housing.

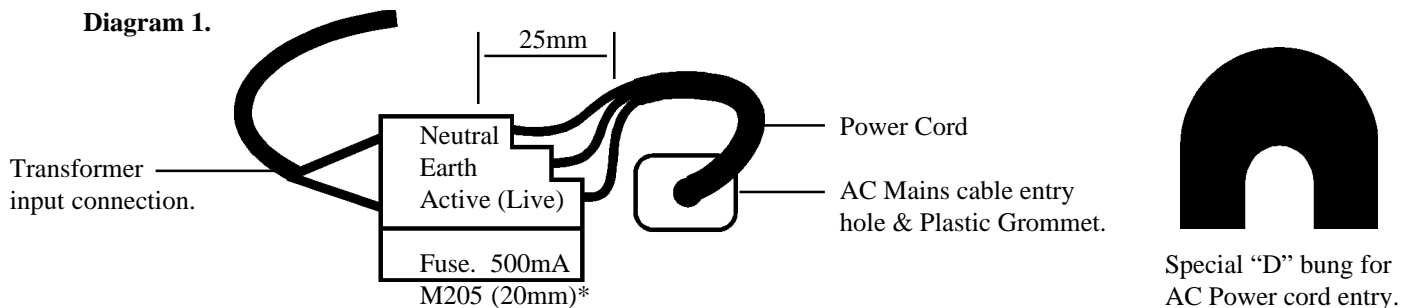
INSTALLATION AND SAFETY INSTRUCTIONS

Electrical AC Mains Power connection.

In countries where the module is supplied without a mains power cord, a suitable mains power cord for connection to the 240V AC Mains supply must be installed by a suitably qualified electrician or technician.

1. Strip 30mm of the sheath from the end of the power cord. Trim 5mm from the ends of the Active and Neutral conductors so that the Earth conductor remains slightly longer.
2. Strip 5mm of insulation from each of the conductors. (Units manufactured prior to September 2000 used a terminal block with no wire protection leaf and must have conductive sleeves fitted to the exposed ends of the conductors)
3. Feed at least 150mm of the power cord through the AC mains cable entry hole from the rear (underside) of the chassis.
4. Terminate the power cord in the terminal and fuse block as illustrated in Diagram 1 below. (Note that the Active wire is always connected into the termination nearest to the fuse)
5. Determine the appropriate length of power cord between the terminal block and the cable entry hole. (Approx. 100mm)
Working from the rear of the chassis, fit the plastic grommet (supplied) around the power cord and apply pressure to both sides of the grommet to clamp the cable. The grommet can now be inserted into the AC mains cable entry hole.
6. When fitting the cover, ensure that the special AC Powercord “D” bung is fitted to the cable entry cutout in the cover where the AC Powercord enters the enclosure. Standard “D” bungs must be fitted to all other unused cable entry cutouts.

IMPORTANT NOTE: An AC Mains socket-outlet shall be installed near the equipment and shall be easily accessible for connection of the mains power cord.



*Note: Units manufactured prior to September 2000 have terminal blocks that utilise an 8AG (25mm) fuse.

Mounting the Unit. See Diagram 2.

1. Installation environment should be maintained at a temperature of 0° to 40° Celsius and 15% to 85% Relative humidity (non-condensing)
2. CE Control Modules are supplied in metal enclosures which must be secured to a flat, vertical surface using fasteners through the four “keyhole” mounting holes in the chassis.
3. When mounting this product onto flammable surfaces, a fire protection backplate MUST BE INSTALLED. The mounting holes in the backplate align with the mounting holes in the chassis so no additional mounting hardware is required. Standard “D” Bungs must be fitted to all unused cable entry cutouts.
This backplate is available from your distributor. Please quote part number 925010.
4. The tamper switch bracket must be positioned through one of the slots in either side of the chassis and under the base of the chassis, before the chassis is secured to the wall.
5. Orientation of the enclosure **MUST** be as per either of the illustrations in Diagram 2.

Connecting Power to the PCB. See Diagram 2 below.

1. Measure and cut two appropriate lengths of insulated cable to connect between the AC mains transformer output terminal block (A) and the “AC” Input connections on the PCB (B).
2. Strip 5mm of insulation from both ends of the cables and terminate into the transformer output terminal block and then into the “AC” Input connections on the PCB. The cables may be routed underneath the chassis to avoid interference with other cables.

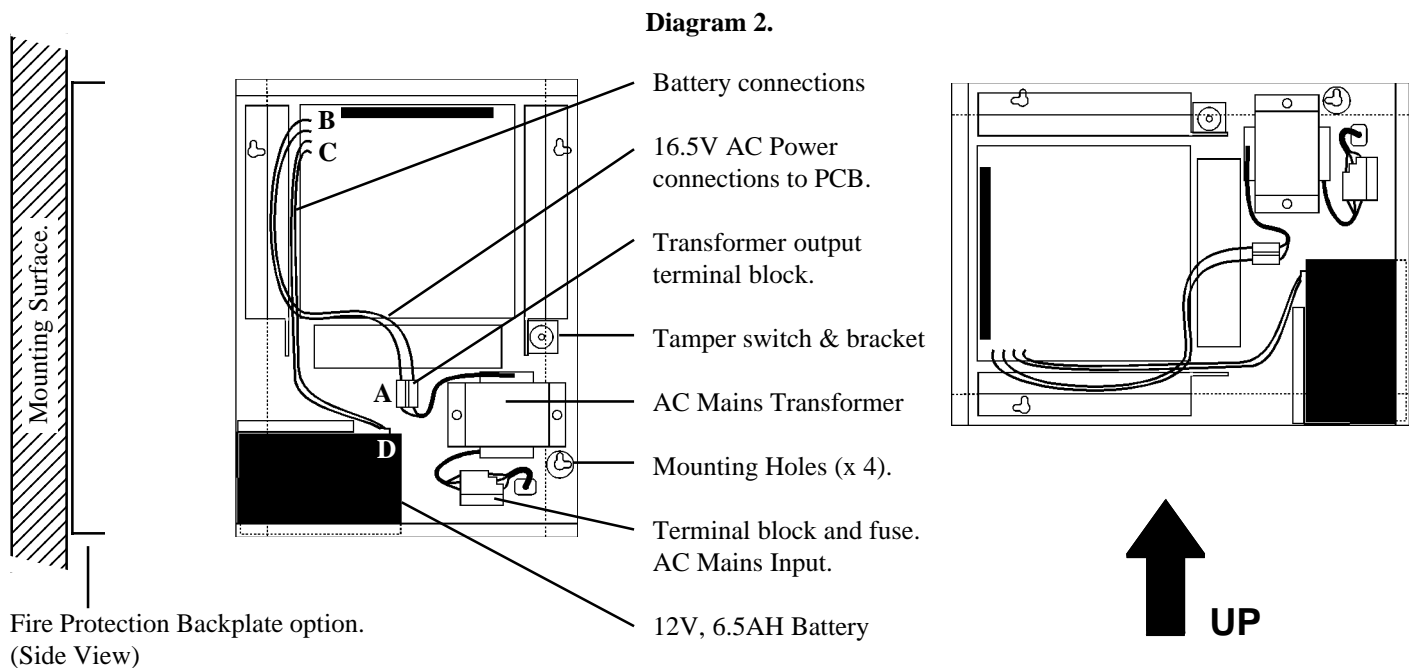
Connecting the Battery to the PCB. See Diagram 2 below.

1. Measure and cut two appropriate lengths of insulated cable to connect between the “+B” and “-B” connections on the PCB (C) and the Battery terminals (D).

2. Strip 5mm of insulation from both ends of the cables and terminate one end into the “+B” and “-B” connections on the PCB.

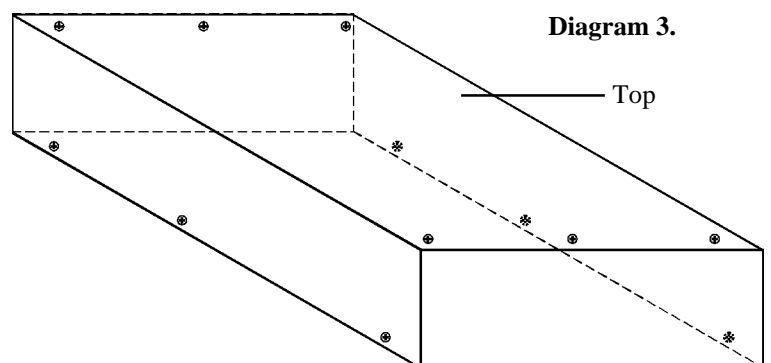
IMPORTANT NOTE: There are two terminals provided for each of the “+B” and “-B” connections. Ensure that each cable is connected to the correct terminal to avoid creating a short circuit across the Battery.

3. Terminate the other end of the cables into the 4.8mm Battery Terminal connectors supplied in the installation kit. The cables may be routed underneath the chassis to avoid interference with other cables.



Fitting the Cover.

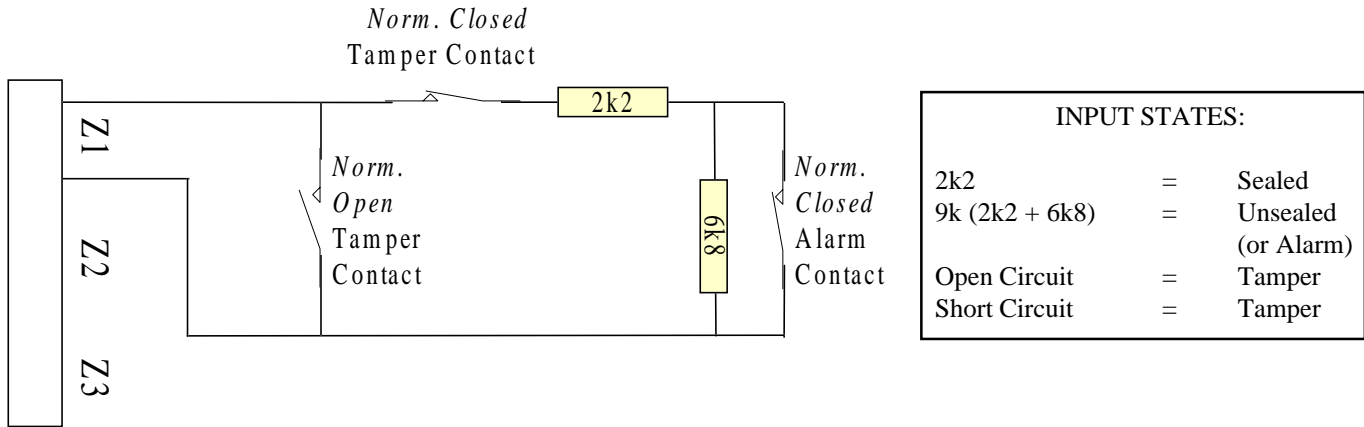
In order to comply with regulations, all twelve (12) of the screws provided to fix the cover to the chassis must be tightly secured. Three screws are located on each of the long sides, and at each end of the top of the cover as illustrated in Diagram 3 opposite.



Wiring Diagrams

ZONE INPUT WIRING

Typical Detection devices with *Normally Closed* Alarm contacts and *Normally Closed* **OR** *Normally Open* Tamper Contacts are wired as follows:



Detection devices with *Normally Open* Alarm contacts are wired in exactly the same manner as above. When programming the Zone Input, however, the option to “Swap Seal and Alarm conditions” must be set to [Y]es.

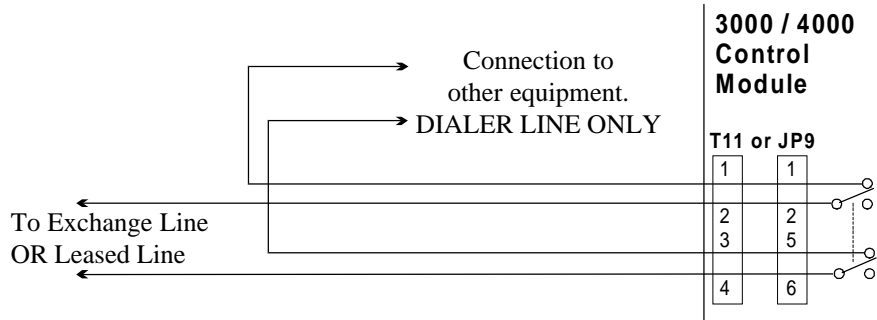
e.g.

E01:Z01	X	S	R	A	N	T	.	.
Options ->	n	Y	n	n	n	n	n	n

TELECOMMUNICATIONS WIRING

Mode 3 wiring diagram for Dialer reporting formats. (e.g. Contact ID, 4+2, IRfast, etc.)

Other equipment such as a telephone, fax machine or answering machine may share the Dialer line connection. If so, the telecom connection must be wired as shown to ensure that the system has priority use of the line so that alarm reporting is not compromised.



“604” Plug & socket wiring. (Australia Only)

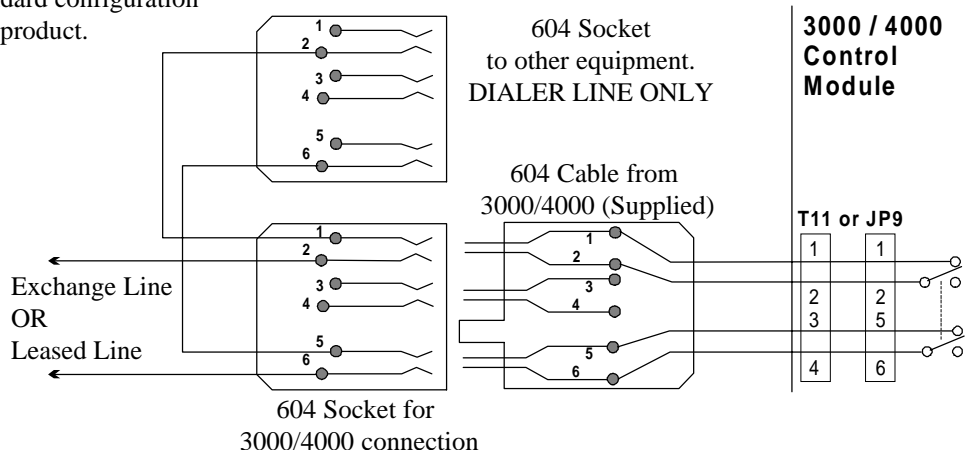
NOTE: Cable supplied is a non-standard configuration and is only suitable for use with this product.

Dialer Line

Phone Line IN: Pins 2 & 6
Phone Line OUT: Pins 1 & 5

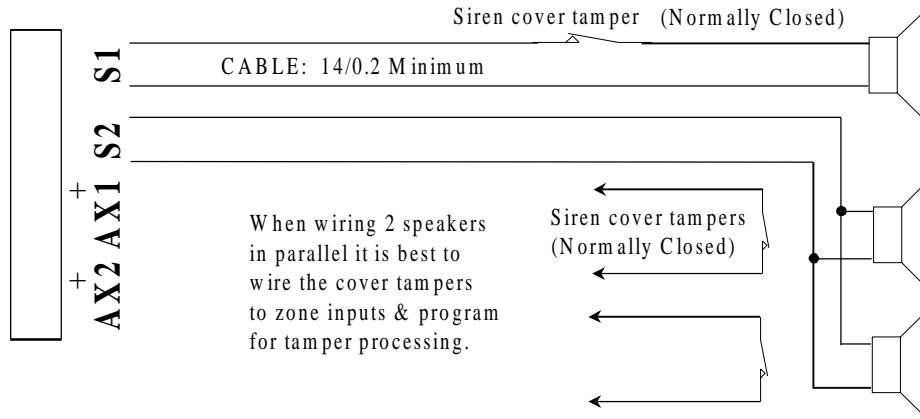
Direct Line

For Direct Line formats (e.g. EarthNet), the Leased Line connects to Pins 2 & 6.



SIREN WIRING

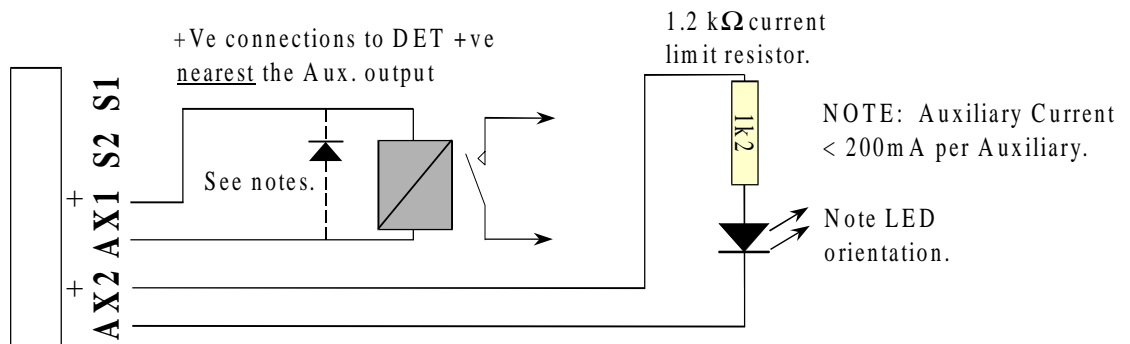
Maximum of two 8 Ohm Siren speakers may be connected to each siren driver, wired in parallel. Norm. Closed Siren cover Tampers may be wired in series with the speaker cable. This method utilizes the siren speaker circuit monitoring.



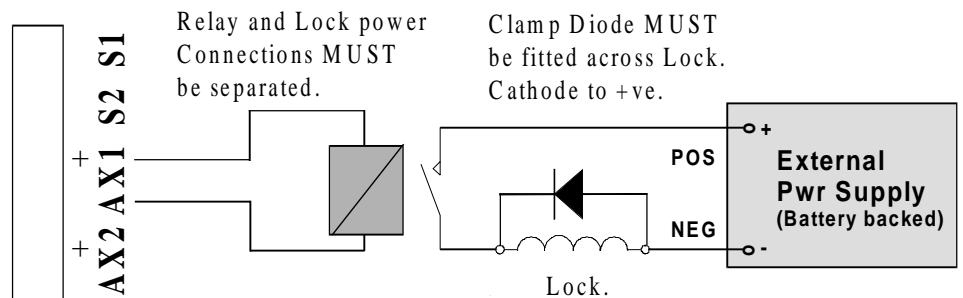
AUXILIARY WIRING

Rules for Auxiliary wiring on any module in the 3000/Access 4000 system.

- Auxiliaries 1 & 2 on the Control Module & Expander Modules can switch up to 500mA continuous and are suitable for inductive loads provided that a clamp diode is fitted across the load as shown below.
- Max current on any other individual Auxiliary must be less than 200mA.
- On any module with Plug pack; Auxiliaries + LAN current + Detectors must be less than 700mA, or an external power supply should be used.
- The Positive of the device must be wired to the Positive connection nearest the Auxiliary. i.e. On the same module.
- If an external power supply is used to power the device, a good common Negative connection MUST exist between the power supply and the module.
- Clamp diode should be fitted across inductive loads. Cathode (bar) to +ve.



Locks are activated via a relay. External power supply is used for lock power to prevent voltage spikes reaching the Concept equipment, provide longer battery backup & minimise the possibility of earth loops.



LINKS. *See pages 10 & 11 for location.*

LK1	Telecom Country Selection.	Removed: Europe TBR21	Fitted: Australia / New Zealand.
LK2	Memory chip (RAM) size select.	1-2	128k DS1245Y (32 Pin) or 512k DS1247Y (32 Pin)
		2-3	32k DS1230Y (28 Pin)
LK3	Installer Code Default. Disconnect AC and Battery from Control Module; Short LK3 Pins; Reconnect power, then remove the short. Installer code will be defaulted to "01".		
LK4	RAM Initialize. ("Continue"). Used when required to rectify Memory problems. CAUTION! Will erase all programming if shorted to initialise memory.		
LK6	Microprocessor select. Factory use only.	Removed (Normal): Standard Micro.	Fitted: Micro Type 1 or 2.
LK8	EPROM type selection. Factory use only.	1-2 Flash.	See page 11 for diagrams.
		3-4 4 MBit EPROM.	
		5-6 2 MBit EPROM.	
LK9	EPROM configuration. Factory use only.	1-2 Flash.	See page 11 for diagrams.
		2-3 EPROM.	
LK10	LAN Termination. No Link. Unterminated. Link not fitted unless unit is first or last module on the LAN system. Link IN. Terminated. Link fitted when unit IS the first or last module on the LAN system. (See "LAN SYSTEM" details beginning on page 12 of this manual for more information)		
LK12	PSTN / Direct Line selection.		
LK13	Both links 1-2	PSTN (Dialler formats: IRfast, Contact ID, etc.)	
	Both links 2-3	Direct Line (e.g. EarthNet)	
JP5	Regulated Power Supply Current Limit setting.		
	Not Shorted	1.0 Amp. Normal setting for 6.5 to 7.0 AmpHour Battery.	
	Shorted	3.0 Amp. Setting for 15 to 17 AmpHour Battery.	

See page 11 for diagrams.

TERMINALS. *See pages 10 & 11 for location.*

T1-4	Zone Input connections. <i>See Zone Input Wiring on page 6.</i>
T5	LAN connections. <i>See "LAN SYSTEM" details beginning on page 12 for details.</i>
T6	Auxiliary outputs and Siren Outputs. <i>See "SIREN WIRING" & "AUXILIARY WIRING" on page 7 for details.</i>
T7	Battery connection.
T8	Detector Power. 12V Supply for Detectors and Auxiliary Devices. Total current sourced from "DET+" and "LAN POS" must not exceed 1.2 Amps.
T9	16 to 18 V AC Input to PCB. (From Transformer Secondary winding)
T10	Tamper Switch Input. Tamper switch supplied. No End-of-line resistors necessary.
T11	Telecom connection Terminal block. Alternate connection for Dialer line or Direct line connection.
	Pins 2 & 4: Line In. Connection to Exchange line or Leased line.
	Pins 1 & 3: Line Out. Connection to other equipment sharing the Exchange line.
	<i>See drawings on page 6.</i>

HEADERS. *See pages 10 & 11 for location.*

JP1	Port 0 connection. <u>TEMPORARY</u> connection of a PC for Upload/Download programming is allowed using the “Port 0 Interface cable” (993030). This Port shares the on-board modem with the Line interface and therefore MUST NOT be used as a permanent connection.
JP2	UART Serial Port Board. A UART Board and appropriate cable/s must be fitted if Printer, PC, GSM modem, External modem or Securitel Interface etc. is being used.
JP3	Auxiliary Expansion Port. For 8 Auxiliary Expansion board. P/N: 995055.
JP4	Auxiliary LAN connection. An LCD Terminal can be connected to this Header if required for diagnostic purposes. A cable is available (P/N: 993028) with matching header socket and flying leads.
JP6	Fibre Optic Port. For future applications.
JP7	Not currently used.
JP9	Telecom socket. <i>See drawings on page 6.</i>

CONTROL MODULE FAULT LEDs. *See pages 10 & 11 for location.*

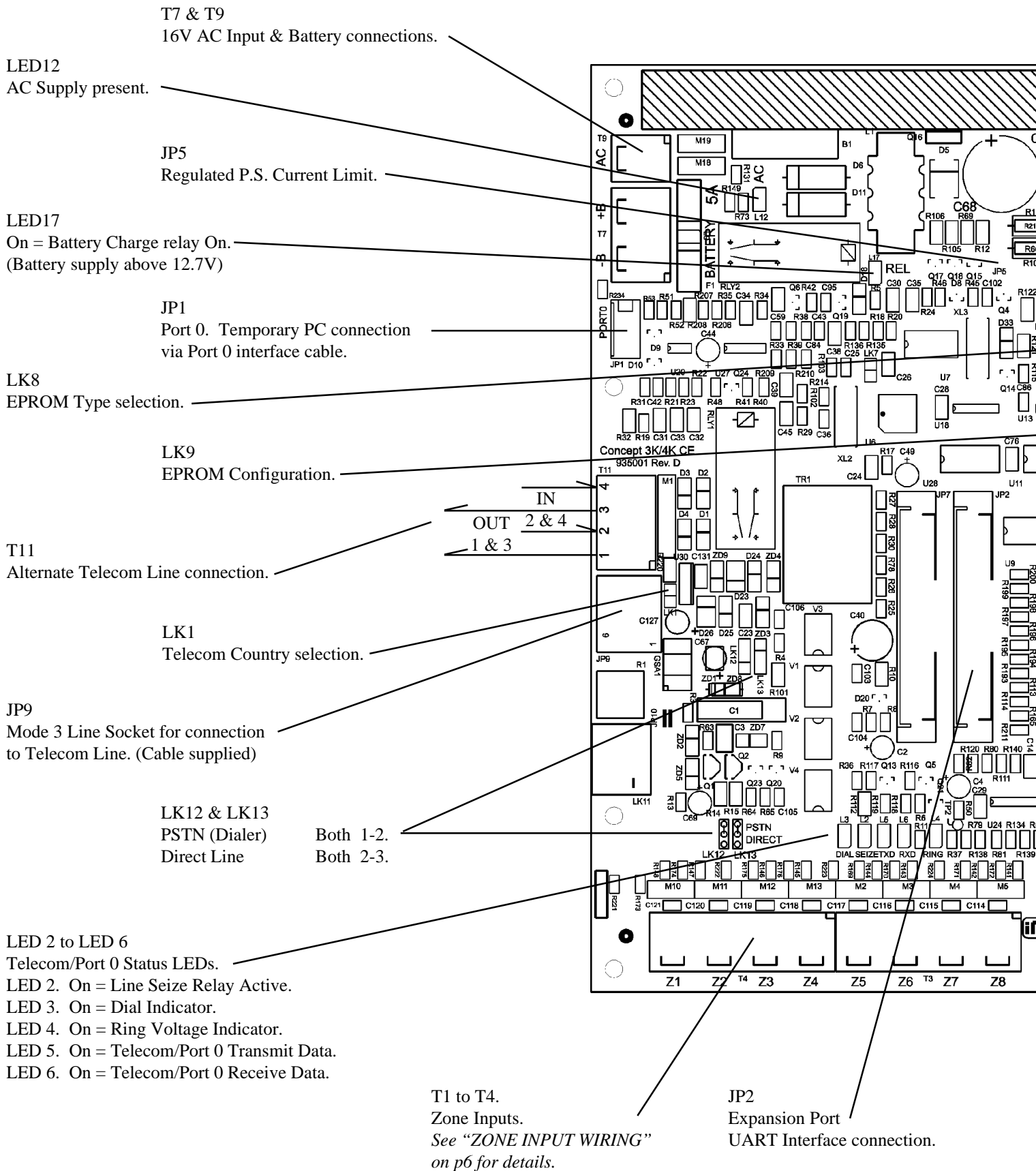
LED1	LED2	EXPLANATION / REMEDY
ON	OFF	Ram Fault. RAM faulty, in backwards, out by one pin or LK2 not correct. Power off, fit correctly or replace.
OFF	ON	Non-volatile RAM not initialised. Short LK4 to continue. (Erases all programming)
ON	ON	Configuration Problem. Return options memory chip to Distributor.
Fast Flash	OFF	Hardware Problem. (EEPROM) Return unit for service.
OFF	Fast Flash	Wrong GAL for NVRAM size. (Illegal Memory size) Contact the Distributor.
Fast Flash	Fast Flash	Wrong GAL for required options. (Illegal option/s) Contact the Distributor.
Fast Flash	ON	Faulty Program chip. (EPROM) Return unit for service.
ON	Fast Flash	Default of installer code not allowed. Contact Installer or return to Distributor for defaulting. Short LK4 or remove and reconnect power to the Control Module to continue with normal operation.
Slow Flash	OFF	PIC not communicating. Return unit for service.
OFF	Slow Flash	Incorrect Micro. Contact the Distributor.
Slow Flash	Slow Flash	Secure Micro Version wrong. Contact the Distributor.
Slow Flash	ON	Lock bits not set. Contact the Distributor.
ON	Slow Flash	Configuration Version problem. Contact the Distributor.

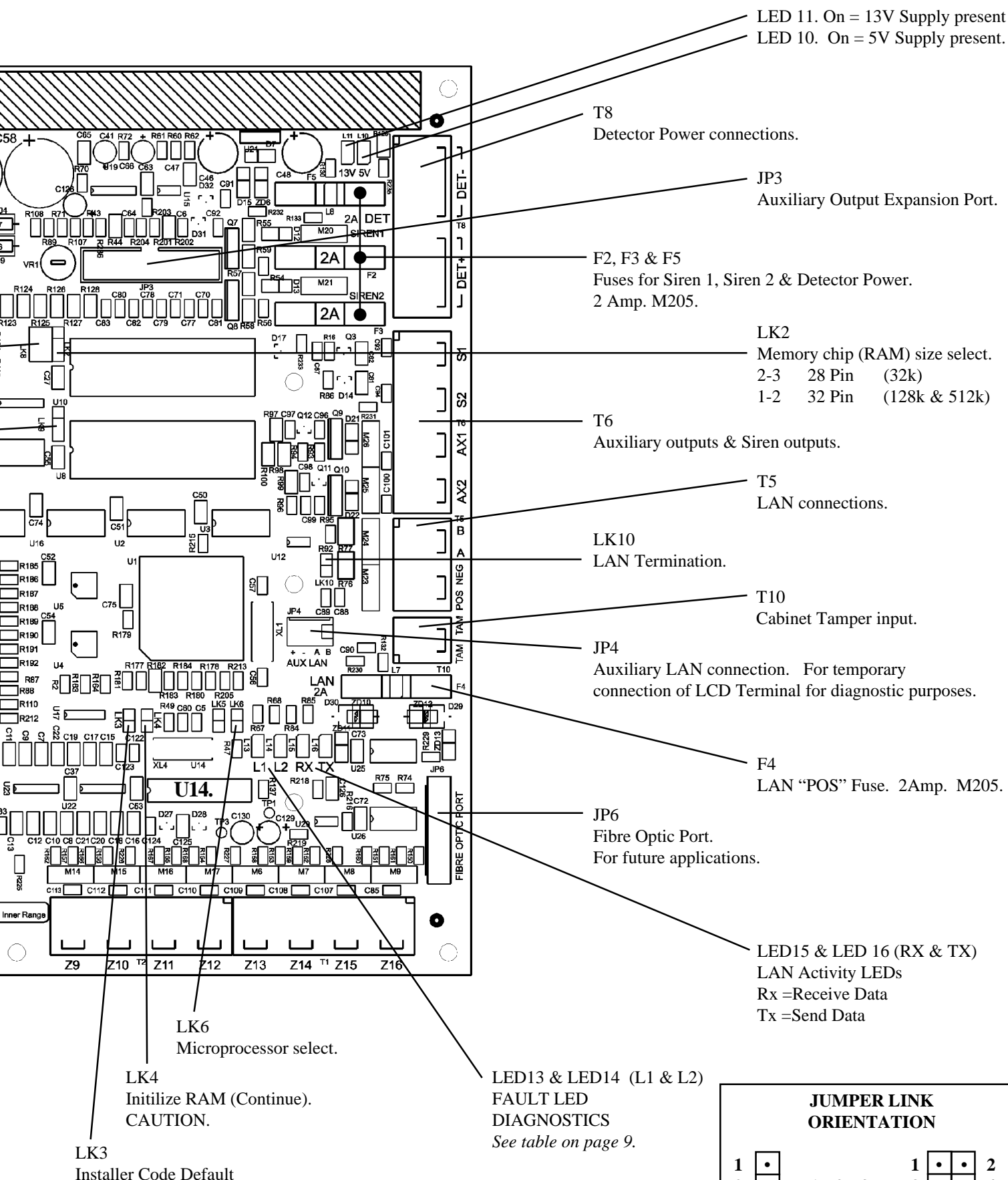
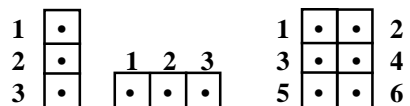
EXPANDER / READER MODULE FAULT LEDs

RX	TX	EXPLANATION / REMEDY
ON	ON	Module is un-addressed.
OFF	ON	Module type unknown. Firmware upgrade required to Control Module.
Flash	ON	Duplicate Module. This module number is already in use by a module of the same type.
Flash	Flash	Module number selected is too big for Control Module RAM size. Select a lower Module number.
ON	OFF	Too many modules on Network for Control Module RAM size.

LCD TERMINAL ERROR MESSAGES

MESSAGE	EXPLANATION / REMEDY
No Rx	Terminal requesting address from Control Module, but no reply being received.
Can't Tx	Terminal cannot send data because LAN is being held in “start” condition. Check for A/B reversed.
Exists	Module number selected already being used by another LCD Terminal. Choose another number.
Too Big	Module number selected is too big for Control Module RAM size. Select a lower Module number.
Too Many	Too many modules on Network for Control Module RAM size.

THE CONTROL

MODULE PCB**JUMPER LINK
ORIENTATION**

LAN SYSTEM OVERVIEW

The 3000/Access 4000 LAN (Local Area Network) is a 3 or 4 wire network used to connect the modules in a system. Up to 250 modules can be connected on the LAN system, comprising up to 99 modules of any particular type. (Depending on Memory size & configuration) Using recommended cable types, modules on the LAN can be installed hundreds of metres from the Control Module.

Data encryption ensures secure LAN communications at all times, while the programmable supervisory polling system continuously monitors the network to detect cable tamper, cable fault conditions, module off-line and module substitution. The data format used in the 3000/Access 4000 LAN has been developed to ensure fast, reliable communications regardless of the size of the system.

For larger systems and complex sites, LAN Isolators can provide opto-isolation between sections of the LAN, eliminate potential earth loop problems, improve surge protection, provide signal level restoral for improved performance over longer cabling distances and offer a monitored “loop” LAN wiring option for a higher level of LAN integrity.

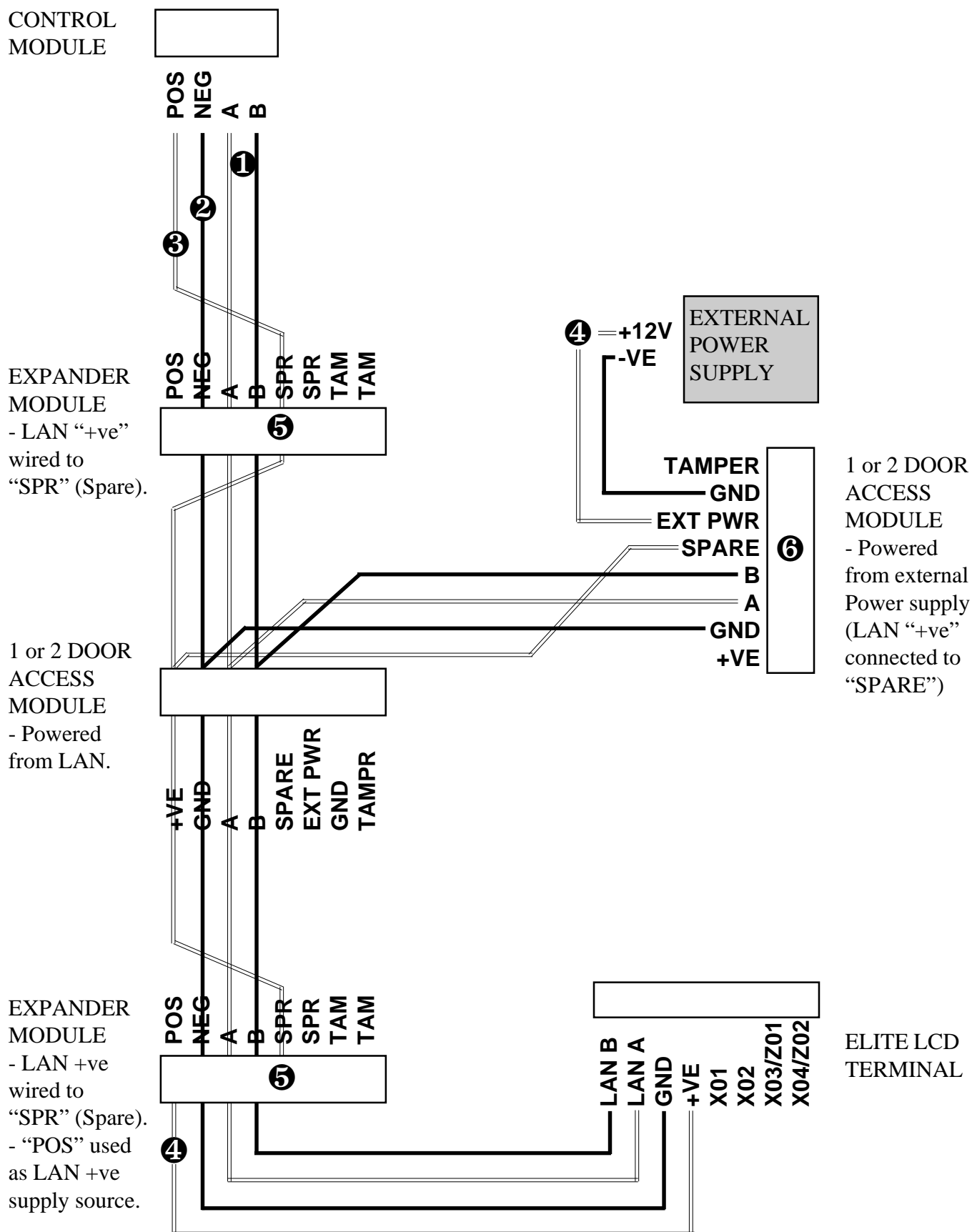
CONNECTING MODULES TO THE LAN. *Refer to diagram opposite.*

- “A” & “B” signal connections are wired in parallel across the system using TWISTED PAIR cable. ❶
See “Cable Types” details on page 12.
The “NEG” connection (0V reference) must also be wired to every module. ❷
- An optional + 12 V connection (LAN +ve) may be used to provide power to modules that do not have their own on-board power supply. e.g. LCD Terminals. ❸
- The + 12 V connection (LAN +ve) used to power LCD Terminals, etc. can be derived from any module with it’s own on-board power supply (Control Module and Expander Modules), or from a separate external power supply. ❹
CAUTION ! Never connect the +ve (POS) of two power supply sources together. i.e. Control Module LAN POS, Expander Module LAN POS, or External Power Supply +ve. This is one of the reasons that “SPARE” wiring terminals are provided on most types of modules.
- When wiring the LAN to modules that are powered from their own on-board power supply (e.g. Zone Expanders), use the “Spare” terminal (labelled “SPARE” or “SPR”) for the LAN +ve connection. ❺
NOTE: LAN “POS” and “NEG” should not be used to power detectors, relays, etc. Always use “DET+” and “DET-” on the module to power these devices.
- When wiring the LAN to modules that are powered from an external Power Supply (e.g. Reader Modules), use the “Spare” terminal (labelled “SPARE” or “SPR”) for the LAN +ve connection. ❻
- A DC Voltmeter may be used to check that the LAN will operate reliably. See “LAN Voltage Testing” on Page 18.

SYSTEM EARTHING

- The System Ground is connected to Mains Earth via the Power cord at the Control Module. The enclosure can be mounted on a grounded conductive surface, providing a secondary ground connection.
- In some cases a Printer, PC, modem, etc. connected to the Control Module UART board may also provide a connection to earth via the peripheral device. If so, ensure that the peripheral device is powered from the same AC Mains circuit or the RS232 Serial connection is isolated.
- The Intelligent 4 Door Access Module also has local Ground connected to Mains Earth via it’s Power cord, however, the System LAN connection (X1 “ISO LAN”) is isolated to eliminate Earth loops. Ensure that there are no other 0V or Ground connections between the Control Module and Intelligent 4 Door Access Modules.
- While the metal chassis of Modules with on-board power supply such as Universal Expanders is connected to Mains Earth, the PCB circuitry is isolated from the chassis. Ensure that wiring, additional hardware or peripherals connected to these modules does NOT provide an Earth connection to the Module PCB.
- Ensure that all other Modules (with no on-board Power supply) have NO local connection to Earth.

Connecting Modules to the LAN.



CABLE TYPES

- **TWISTED PAIR** Cable **MUST** be used to connect the LAN.
Multi-strand wire is preferred for terminating into the screw terminal connectors.
Two pair Telephone or LAN cable is suitable as it provides all 4 conductors required.
One pair for “A” & “B”, and the other for “POS” & “NEG”. Unshielded cable is quite acceptable, however, in situations where electrical storms or high levels of electrical interference are a problem, shielded 2 pair cable may be used.
Examples of suitable 2 pair cables:

Unshielded. <i>Figure 1.</i>	Shielded (All Multistrand) <i>Figure 2.</i>	
Olex TJC590AA002	Olex JEIP87AA002	Belden 8723 *
Tycab TIC6105 †	Tycab DPF4702	Tycab DQQ47025 *
MM MegaTwistpatch ‡	MM B2002CS	Garland MCP-2S
Category 5.	Electra EAS7202P / 7302P	Electra EAS16202P

† 3 Pair.
‡ Multistrand (7/0.2).
* Individually screened pairs.
- If **SHIELDED CABLE** is used, **DO NOT** use the shield as a **negative connection** & do not allow the shield to make contact with Negative, Ground, or any other wiring or metalwork within the system. Shields should only be terminated to a Protective Earth at **ONE END** of the cable. ❶ See “System Earthing” below. If no suitable earth point is available at a module location, the shield can be looped back to the shield of the previous length of cable. ❷
- **LAN POWER CABLING.** Separate heavy duty Figure 8 cable (24 / 0.20 recommended) should also be run for “POS” & “NEG” over longer distances if used for powering modules. e.g. LCD Terminals. *Figure 3.*

LAN “POS” current required:	Max. Cabling Length for LAN +ve (POS) & GND (NEG)		
	Twisted pair	Fig 8. 14 / 0.20	Fig 8. 24 / 0.20
60mA (e.g. 1 LCD Terminal)	200 metres	400m	640m
120mA (e.g. 2 LCD Terminals)	100 metres	200m	320m
180mA (e.g. 1 Reader Module - Reader pwr not incl)	62metres	130m	210m
250mA (e.g. 4 LCD Terminals)	50 metres	100m	160m
500mA (e.g. 8 LCD Terminals)	25 metres	50m	76m

Remember to allow for any extra current required by Detectors, Auxiliaries, Readers, etc:
NOTE: Lock strikes must not be powered from the LAN.

Relay (1A contacts)	approx. 25mA	Small Proximity reader (~10cm read range)	~50 to 120mA
Relay (5A contacts)	approx. 45mA	Standard Prox reader (~15cm read range)	~120 to 180mA
PIR	15 to 25mA typical.	Magnetic Swipe reader.	~15mA

Figure 1.
Twisted pair communications cable.

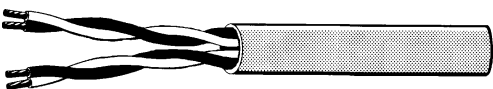


Figure 2.
Shielded, twisted pair communications cable

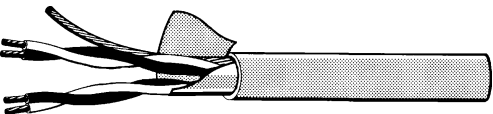


Figure 3.
Heavy duty Figure 8 cable. **24 / 0.20**
Used for LAN +ve & GND on long cable runs.



SURGE PROTECTION.

- In multi-building installations and on longer cable runs, shielded cable may be used to provide added protection against voltage surges.
- Each individual shield should be terminated to a Protective Earth point such as an earth stake, building earth (metal building framework) or water pipe. ❶ It is very important to ensure that the shield makes no contact with Negative, Ground or any other wiring within the system.
- LAN Isolator/s can also be included in a Surge protection scheme to electrically isolate different sections of the LAN at the point where LAN cabling enters/exits each building, or on cable runs that are more exposed to voltage spikes or surges.

SYSTEM CABLING CONFIGURATION *Figure 4 & Figure 5.*

- Avoid installing the LAN cable with mains power cables & any other cables likely to cause interference wherever possible
- No module is to be more than 1.5km (1500 metres) cable length from the Control Module OR from a LAN Isolator “LAN 2” or “LAN 3” Port. ③ (LAN Isolator/s can be used to extend the maximum cabling distance)
- **TOTAL LAN CABLING** in a system without LAN Isolators should not exceed 2000 metres, and/or 64 Modules. ④
If the total amount of LAN cable will exceed 2000 metres, and/or there are more than 64 modules to be connected, LAN Isolator/s must be used to separate the LAN system into sections and maintain optimum LAN performance. i.e. Include one LAN Isolator for every 2000 metres of LAN cabling and/or for every 64 Modules connected. ⑤

LAN TERMINATION *Figure 4 & Figure 5.*

- **The LAN MUST be Terminated** for optimum performance, by ensuring that the Termination Resistor (470 Ohm*) is “IN” on the first and last modules in the LAN network. Terminated modules are indicated with a “T” on the illustrations. ⑥
(Termination is put “IN” with a jumper link or a DIPswitch, depending on the module type) * See Note 1 on Page 15.
- **MULTIPLE CABLE RUNS.** In systems where there are multiple cabling runs going out from the Control Module or LAN Isolator (i.e. “star” configuration), Termination is fitted on the modules at the end of the two longest runs. ⑦

Figure 4.
Simple LAN configuration.

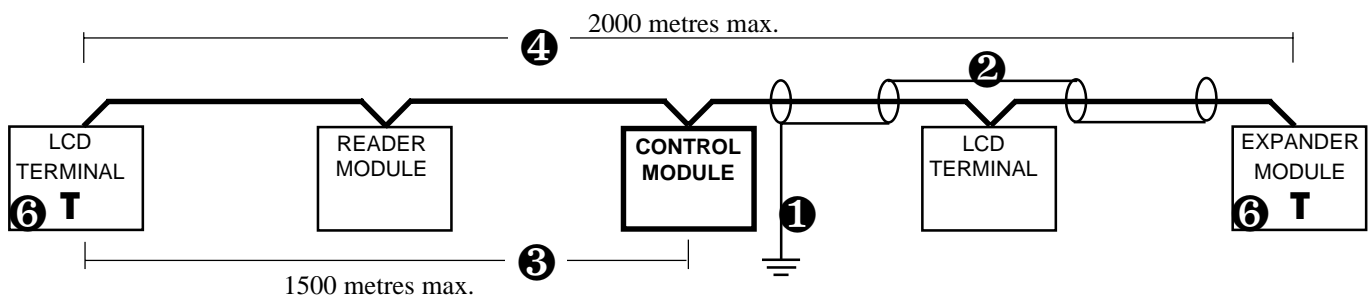
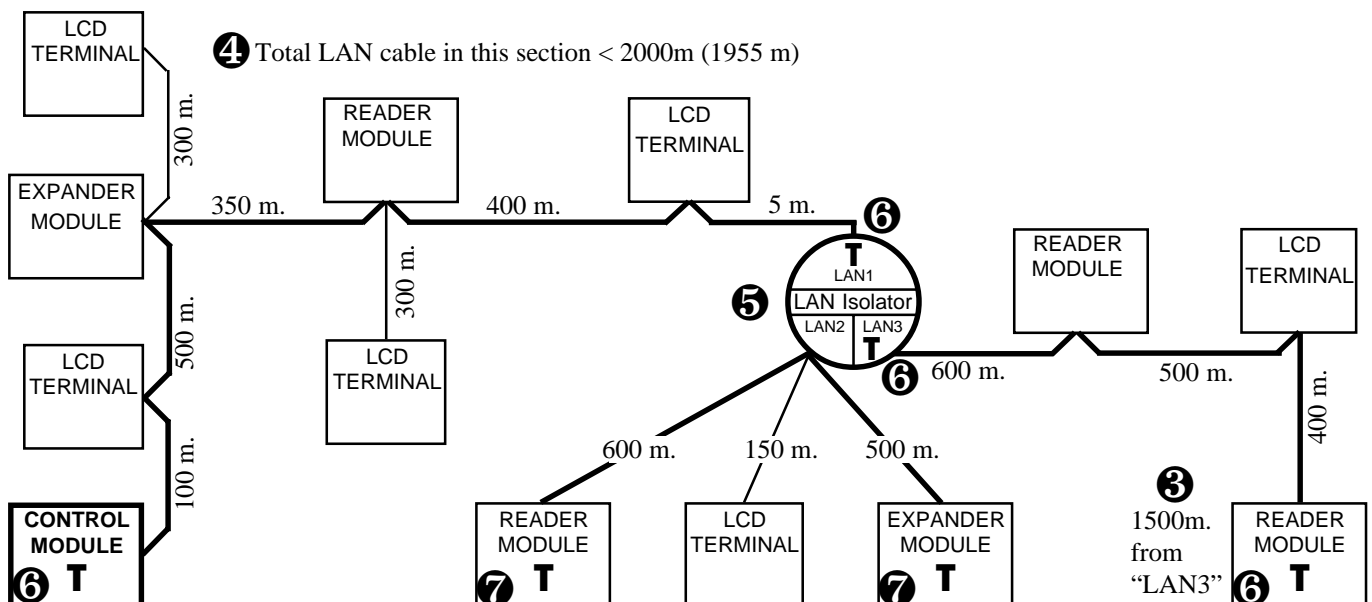


Figure 5.
Complex LAN configuration.



LAN TROUBLESHOOTING FLOWCHART

BEFORE SYSTEM POWER UP

(No Power connected to modules
AND No batteries connected)

A1. WHERE POSSIBLE, PHYSICALLY CHECK:

- LAN A & B connections not reversed on any module.
- No modules connected to earth. (via mounting bolts, ext. power supplies, input/output cabling, etc.) Note that the Control Module may be connected to earth via external equipment connections. i.e. Printer, PC, modem, etc. If so, this must be the only earth connection in the system.
- Only two modules in the system are terminated.



A2. CHECK FOR SHORT CIRCUITS ON THE LAN

(No Power connected AND No batteries connected)
METER ON OHMS RANGE

Check at the Control Module for short circuits between:

- LAN A & B.
- LAN A to +ve and -ve.
- LAN B to +ve and -ve.

Note: DC Resistance in the LAN cable (~0.18 Ohms/metre) can mask short circuits that exist on longer cable runs.



A3. CHECK FOR CORRECT LAN TERMINATION

(No Power connected AND No batteries connected)
METER ON OHMS RANGE

Measure between LAN A & LAN B on the Control Module:

- 170 to 300 Ohm.* OK. (System with up to 32 modules)
- 140 to 270 Ohm.* OK. (System with up to 64 modules)
- Lower value. More than two modules terminated or Short cct across LAN A & LAN B.
- Higher value. Less than two modules terminated or Open cct on LAN A &/or B wiring.

* See Notes 1 & 2.



POWER UP SYSTEM & CONNECT BATTERIES

A4. CHECK CONTROL MODULE OPERATION

DC POWER CHECK. With Meter on DC Volts range, measure between LAN +VE & LAN -VE (GND) on the Control Module:

- 11V to 14V. OK.
- <11V. Too many devices being powered from the Control Module or Battery Flat.

Check FAULT LEDs on Control Module:

- Both Off. OK. Proceed to step A5.
- Any other state. Refer to "Control Module Fault LEDs" table on Page 9.



A5. DETERMINE THE TYPE OF LAN PROBLEM

A. SOME MODULES HAVE INTERMITTENT COMMUNICATIONS PROBLEM.

Proceed to Step B1, "Intermittent LAN problems". ⇒

B. SOME/ALL MODULES NOT COMMUNICATING AT ALL. Proceed to Step A6.



A6. IS THE LAN COMPLETELY DEAD ?

YES. Proceed to Step C1, "LAN Dead". ⇒ ⇒

NO. (Some Modules not communicating, others OK)
Proceed to Step A7.



A7. CHECK STATUS OF PROBLEM MODULE/S

DC POWER CHECK. Meter on DC Volts range. Check for 11 to 14 Volts between LAN +VE & LAN -VE (GND) on the problem module. See Note 3.

Check FAULT LEDs (TX & RX LEDs) OR LCD Display on problem Module:
Both LEDs Off OR Display has no "Module ..." messages.
Proceed to step A8.

Any other state. Refer to "Expander/Reader Module Fault LEDs" table or "LCD Terminal Error messages" table on Page 9.



A8. TEST LAN VOLTAGES AT PROBLEM MODULE/S

Perform LAN Voltage Checks at the problem Module/s.
Refer to the table "LAN Voltage Testing" on Page 16.



A9. SUBSTITUTE MODULE/S

If the troubleshooting procedure fails to locate any power, wiring or termination problems, you may have an equipment fault. Replace the module/s suspected of causing the problem.

⇒ ⇒ ⇒ ⇒ ⇒

LAN DEAD

⇒ C1. TEST VOLTAGES AT CONTROL MODULE

Perform LAN Voltage Checks at the Control Module.
Refer to the table “*LAN Voltage Testing*” on Page 16.

If this fails to locate the problem, *proceed to Step C2.*

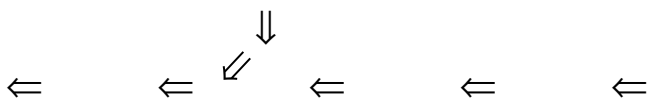


C2. ISOLATE PROBLEM CABLING OR MODULE/S

Disconnect all LAN wiring from Control Module.
Reconnect one LCD Terminal and ensure that it communicates. (If it doesn't, follow Steps A7 & A8)

Reconnect the LAN one module at a time until a problem module, or section of cabling kills LAN communications when reconnected.

With the problem area identified, *proceed to Step A8.*



1. LAN TERMINATION CHECK

Very early 3000 products (Australia & NZ only) had 120 Ohm Termination resistors which results in lower measurements (~70 to 140 Ohms). When expanding these systems, take termination OUT on the existing modules, and put termination IN on two of the new modules. Alternatively, take termination OUT on the existing modules and fit a 470 Ohm resistor between LAN A & B on those two modules instead. **NOTE:** This is only necessary if expanding the system, or if there are communication problems. If the system is operating reliably, no modification is necessary.

INTERMITTENT LAN PROBLEMS

B1. WHICH MODULES ARE INTERMITTENT ?

Using an LCD Terminal or Review Logging via Upload/Download software, check Review Data for “Module Lost” and “Module Found” messages.

Each message will also identify the Module type and number. Note the problem module/s.

Proceed to Step B2.



B2. IS ANOTHER EVENT CAUSING THE MODULE TO BE LOST ?

Look at the Review Messages immediately preceding the “Module Lost” messages for any event that repeatedly coincides with the loss of module/s, or if the loss of module/s occurs at, or around, the same time of day. Look for messages such as Door Un-lock/Lock, Siren On, Auxiliary On, etc., and note the times when the “Module Lost” messages occurred.

YES. Ancillary devices & external equipment (e.g. electrical machinery) can produce voltage spikes, electrical noise and excessive current drain.

If the LAN, Power & Auxiliary circuits are not wired correctly or Earth loops exist, these devices can interfere with LAN communications.

If such an event does coincide with loss of comms, reproduce the sequence of events to confirm the effect, then check any associated wiring circuits accordingly.

NO. *Proceed to Step A8*

NOTES:

2. TERMINATION RESISTOR CHECK

To determine if a module is fitted with a 120 Ohm or 470 Ohm Termination Resistor, ensure that TERM is “IN”, disconnect the module from the LAN, remove power, and measure across LAN A and B on the module with the meter on the OHMS range.

3. MODULE POWER TEST

The Test Menu can be used to check LAN Power conditions. Logon to the LCD Terminal, then press <MENU>, 4, 8. This activates the power test, and the results will be displayed on the LCD Terminal, and in the review memory. See “Concept 3000 Programmer’s manual” Rev 2.3 p154 for more information.

LAN VOLTAGE TESTING

NOTES:

1. These Voltage checks should be done with no (or minimal) communications traffic on the LAN. To ensure this:
 - a) Check that poll times for all addressed modules in the system are set to the default 60 / 120 seconds or greater.
 - b) Disconnect LAN A and LAN B from any unaddressed modules on the LAN, as these modules will be constantly attempting to send messages to the Control Module.
 - c) Ensure that Terminals, Readers, etc. are not being used while performing tests.
 Before proceeding with Voltage tests, check the "RX" LED on the Control Module to confirm that there is minimal LAN activity.
2. To determine if a problem exists on the module under test, or elsewhere on the LAN, these voltage tests can be performed:
 - a) With the module connected to the LAN.
 - b) On the cable connections with the module disconnected from the LAN.

Test Point + PROBE	Test Point - PROBE	EXPECTED RESULT	PROBLEM/ REMEDY
LAN +ve	LAN -ve or GND	11V to 14V DC	0V. Open circuit LAN +ve connection, or short cct between LAN +ve and LAN -ve. <11V. Too many modules powered from the LAN power supply source. Length (or guage) of LAN cabling causing excessive Voltage drop on the cable.
LAN B	LAN A	200 to 400mV DC	<200mV. Short cct between LAN A & B. More than 2 modules terminated in this section of LAN. >400mV. LAN A &/or LAN B Open circuit. Less than 2 modules terminated in this section of LAN <0V (Negative reading). LAN A & LAN B connections reversed.
LAN A	LAN -ve or GND	200mV to 2.5V DC	<200mV / >2.5V DC. System may have more than one module connected to an earth point, causing earth loop/s. Ensure that no more than one module in the system is connected to earth. Remember that a module may be connected to earth via a peripheral device or it's cabling. e.g. PC, Printer, External power supply, Detector, Output device, etc. If installation methods &/or system configuration makes multiple earth points unavoidable, install LAN Isolator/s at suitable points in the LAN system to isolate the earthed section/s
LAN B	LAN -ve or GND	200mV to 2.5V DC	As above.

SYSTEM OPTIONS

A special Options Micro chip is used to enable certain system options and upgrade options in the Control Module. The Chip is labelled U14 and is located between the Zone 9 to 16 Input connections and Links LK3 to LK6. See PCB layout on page 11.

A range of standard Options Micro chips are available. These chips can be purchased and changed over by the installer at any time to provide additional features.

The price of each Options Micro Chip Type will vary according to the feature/s that the chip will enable.

NOTE: If the additional feature required is new and was not available in the version of firmware currently in the Control Module, then the Control Module firmware AND the Options Micro will need to be changed.

When purchasing 128k or 512k Memory expansion for the Control Module, an Options Micro chip will also be supplied to enable the use of the additional memory.

IMPORTANT NOTE: When purchasing Memory expansion you must specify which product is being upgraded. "3000" or "Access 4000".

The table below shows the current range of Options Micro chips available.

This selection table may be expanded as further options become available.

FEATURE	OPTIONS MICRO TYPE AND DESCRIPTION					
	1*	2	3	4^	5	
	Standard 3000			Standard 4000		
	32k	128k	512k	128k	512k	
Aircon. Control				YES	YES	
Door Interlocking				YES	YES	
ACCEPT	YES	YES	YES	YES	YES	
High Level Lift I/F						
"Card only" Users				YES	YES	
GSM SMS	YES	YES	YES	YES	YES	
Spare				YES	YES	
Lift Access Control				YES	YES	
128k RAM		YES		YES		
512k RAM			YES		YES	

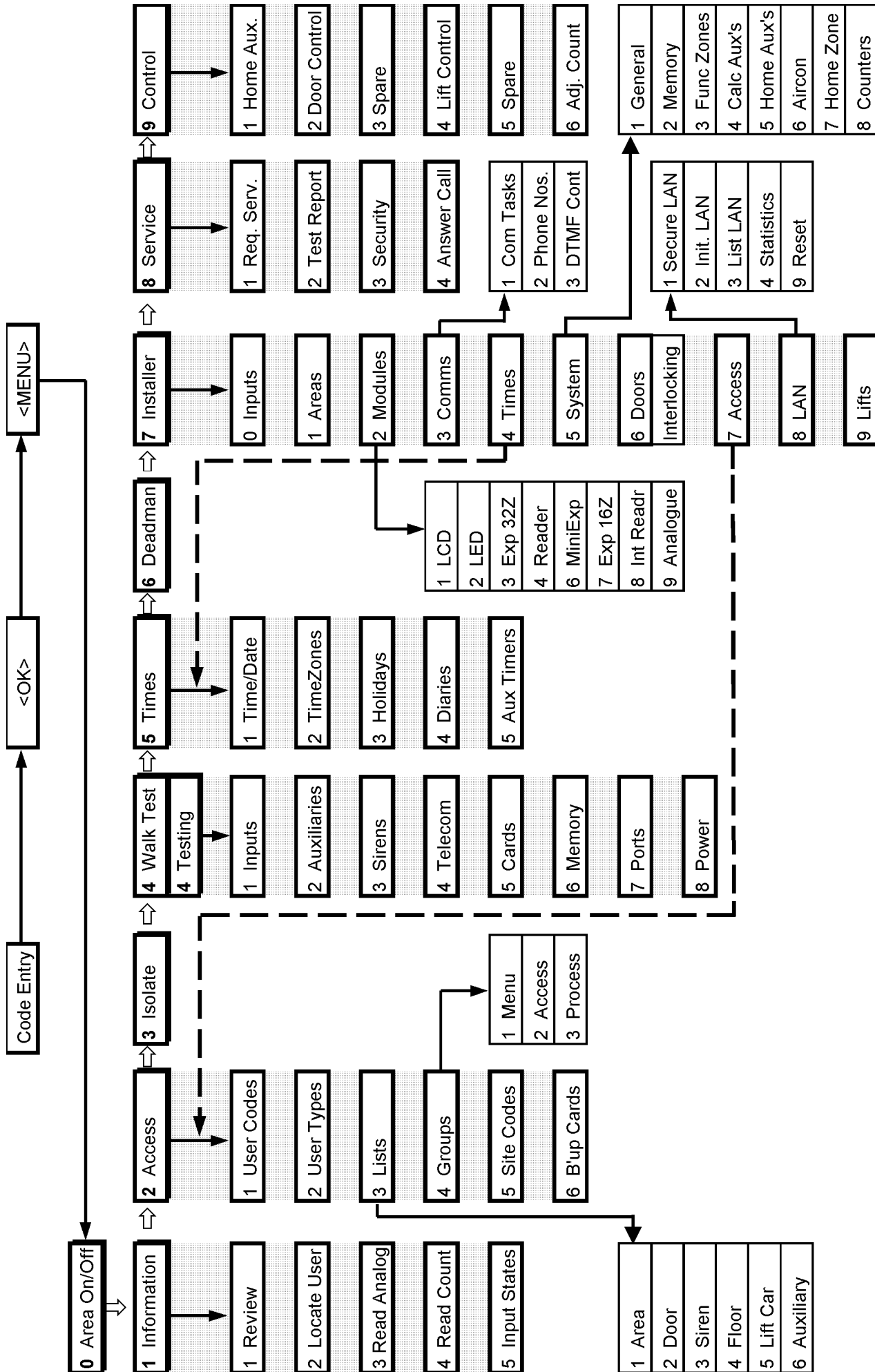
* Factory fitted option for Model 3000. (32k Memory)

^ Factory fitted option for Model Access 4000. (128k Memory)

Designed & manufactured in Australia.

Disclaimer: 1. The manufacturer &/or it's agents take no responsibility for any damage, financial loss or injury caused to any equipment, property or persons resulting from the correct or incorrect use of the system or it's peripherals. The purchaser assumes all responsibility in the use of the system and it's peripherals.

2. While every effort has been made to ensure the accuracy of this manual, the manufacturer assumes no responsibility or liability for any errors or omissions. Due to ongoing development, this manual is subject to change without notice.



**3000 / ACCESS 4000
Menu Flowchart**

GLOSSARY OF TERMS

4+2 PULSE	Simple tone-burst communications format allowing the system to dial a Central Station to report alarms & other system activity on a normal PSTN phone line. 4 client code and 2 alarm digits are sent. Normally, the 1 st digit represents the type of event (e.g., open, close, alarm, restore etc.) and the 2 nd digit represents the event detail. Has very limited reporting capabilities. (V3 or later)
ACCEPT	PC software providing monitoring, control and management of the system in a simple Window point & click environment with graphical interface. (V2 or later)
ACCESS GROUP	Access groups are programmed to define access control options for different types of Doors/Lifts. They are then allocated to the Doors or Lifts to determine how each will operate.
ADDRESS	A number allocated to every module in the system that is connected to the Control Module via the LAN. Allows the Control Module to identify each module.
ALARM	The condition of a zone or system input when it is in an abnormal condition and the system has been set to respond to that condition. i.e. Area/s turned ON.
ALPHA-SEARCH	Many items in the system are identified with text names (as well as ID number). The Alpha-search option allows the User to quickly locate items by using the digit keys of the LCD Terminal to jump to names beginning with a specific letter.
ANTI-PASSBACK	A system to monitor/prevent a user passing through a door into the same area as the system records them as being already in. e.g. Prevents a user from passing their card back under a door for another person to use.
AREA	Dividing a system into areas allows different parts of the system to be protected differently. i.e. Turned ON or OFF at different times, Reported separately, etc. Areas are named for easy identification. e.g. WORKSHOP, OFFICE, STORE, etc.
AUXILIARY	A device used to control an external device or indicate that a particular condition or conditions exist in the system. An auxiliary may be a physical output (Lock auxiliary, Entry warning device, Strobe, etc.), or a “phantom” auxiliary used in the programming to link two or more functions together.
BACKUP CARD	A number of Backup Cards can be enrolled in the system that will still provide card access at Readers connected to Standard Reader Modules in the event of a communications failure between the Control Module and any Reader Modules.
CALCULATED AUXILIARY	Powerful auxiliary programming tools that can activate an auxiliary (or Input) as the result of programmable logic, or be used for special Control functions over Areas, Doors, Lifts, Area Counters and Anti-Passback processing.
CARD	General term for Magnetic Stripe, Proximity, Wiegand cards & other devices such as Insert keys, Barcodes, etc. that can be utilized to operate the system.
CENTRAL STATION	Remote monitoring facility to which alarms and system activity are reported by Security systems so that appropriate actions are initiated, and records kept.
CLIENT CODE	An ID number, usually 4 digits, sent to a Central Monitoring station with each event reported to identify the Client. A unique Client Code can be reported for each Area in the system if necessary. e.g. In multi-tenancy sites.

CONTACT ID	Communications format allowing the system to dial a Central Station to report alarms & other system activity using DTMF tones on a normal PSTN phone line.
CONTROL MODULE	The heart of the System. The Control module stores all data, communicates with all modules connected to the system LAN, and reports alarms & system activity to the central station and/or computer.
DE-BOUNCE	<i>See "Zone De-bounce"</i>
DEFER AREA	Option to define specific Area/s that when turned Off by specific User Type/s, will start a timer running. When the timer expires, the Area will automatically turn On again, unless the User enters their code to "Defer" the Area On function and re-start the timer. (V3 or later)
DIARY	A feature for displaying pre-programmed messages or default messages on LCD terminals for a specified period.
DOOR	An access point in a system that can be programmed to provide and restrict access to users as required, and monitored for abnormal conditions.
DOOR FORCED	A System Input for each Door to indicate when a Door is Locked and has been opened without a valid unlock command. i.e. Without valid User Access, REN / REX button, Auto unlock via TimeZone, etc.
DOOR OPEN TOO LONG (or DOOR HELD)	A System Input for each Door to indicate when a Door is held open for too long when opened with a valid un-lock command. The "Maximum Door Open Time" is programmable for each door.
DTMF	(Dual-Tone Multiple Frequency) Audio frequency signalling system used for dialling telephone numbers and transmitting data. (Same as used on touchtone, push-button telephones for dialling) Also utilized to send Remote Control commands to the system via the telephone line connection. (V3 or later)
DUAL USER	Requirement for two Users to present their Cards / PIN codes at specified Door/s before access is granted.
DURESS	PIN code/s can be programmed that will activate a System input on the Terminal where the code was used, to report a Duress condition to the Central Station. i.e. When a user is being forced to turn OFF the system by an intruder, they would do so using their "Duress" PIN code.
EARTHNET	Communications format allowing the system to report alarms and other system activity to a Central Station using a supervised Direct (Private) line.
ENTRY DELAY	The maximum time that a user has to turn OFF an area, after entering the area and activating any detection devices nominated as "Primary Entry" types.
EXIT DELAY	The maximum time that a user has to exit the area after turning the area ON. Detection devices nominated as "Exit" types, will not generate alarms during this time.
EXPANDER MODULE (Zone Expander)	A module that connects to the Control Module via the system LAN and provides additional zones, sirens, and auxiliary outputs wherever they are required.

FUNCTION ZONE	Programming facility that allows zone or system inputs to: -Individually control an auxiliary. (Completely independent of Area programming) e.g. Doorbells, Interface to lighting/heating/aircon. systems, etc. -or; Turn area/s ON and/or OFF. e.g. Keyswitch Control, Remote Control, etc.
HOLDUP AREA	Area option for special Input processing that delays the reporting of an alarm, allowing the User to enter their PIN code and cancel the alarm if the device was activated accidentally. (V2 or later)
HOLIDAY	Specific dates or periods may be programmed as "Holidays". Holidays may then be utilized in the "TimeZones" to specify whether the TimeZone will be valid OR in-valid on the holiday date/s specified.
HOME AUXILIARY	Home Auxiliaries are specified auxiliaries that can be controlled by users directly from an LCD Terminal. e.g. Pool pump, sprinkler, etc. They can be named for easy identification, & programming can restrict which users can control which auxiliaries. A Home Auxiliary may also be controlled automatically by an Input.
HOME ZONE	A number of Inputs (depending on memory size and configuration) can be assigned to Home Zones. Via the Menu Group, User Types can be allowed "Home Zone Isolate" that simplifies the Isolate / De-isolate function by allowing Zones to be located with the alpha search feature. (V3 or later)
INPUT	An input may be a physical Zone Input on a Module, or a System input activated when specific conditions occur on a Module. (e.g. Low Battery, Line fault, Cabinet Tamper, Door Open Too Long, Illegal Card, etc.) Programming of Inputs and Areas will determine how (and if) the system will respond (generate an alarm, activate an auxiliary, etc.) when any input changes state. (See also "ZONE" and "SYSTEM INPUT")
INTERLOCK GROUP	A programming option allowing a List of Doors to be interlocked together. i.e. A door will not un-lock unless all the other Doors in the List are locked and closed. Interlock groups can also be programmed to check the status of a specific Area, Auxiliary or Zone before allowing access if required. (V2 or later)
IRFAST	Communications format allowing the system to dial a Central Station to report alarms & other system activity using a very fast data transmission technique on a normal PSTN telephone line.
ISOLATE / DE-ISOLATE	Isolating enables faulty devices wired to Zone inputs, or System inputs that cannot be immediately restored, to be temporarily taken out of service in order to prevent them causing alarms when the area is turned ON. Once the problem is rectified, the device is De-isolated to restore normal operation.
LAN	(Local Area Network) Data communications network used in the system to connect modules (LCD terminals, Expander Modules, Reader Modules, etc.) into the system.
LCD	(Liquid Crystal Display) A display that allows information to be viewed in plain English text. The LCD used in the LCD Terminals is backlit to allow viewing in any lighting conditions.
LED	(Light Emitting Diode) A semiconductor light source used as an indicator lamp with the advantages of lower power, longer life and higher speed over conventional filament lamps. Used on module PCBs to indicate status and diagnose problems. Also used on Elite LCD Terminals to indicate Area status and/or other system conditions.

LIFT	A special access point in a system that can be programmed to provide and restrict user access to Lift Cars and Floors. This is achieved by enabling specific Floor selection buttons via a Reader in a Lift Car.
LISTS	Lists are used to simplify system programming. Once a List is created it can then be assigned in other programming options such as User Types, TimeZones, Calculated Auxiliaries and Function Zones, to define the items that are allowed to be controlled/accessed. There are 6 different types of Lists; Area, Siren, Door, Lift Car, Floor and Auxiliary Lists. (Aux Lists, V2 or later)
MENU GROUP	Menu Groups are programmed to define system operations & menu options allowed, and are then allocated to User Types and/or LCD Terminals to determine the control and menu access available.
MODEM	(Modulator-Demodulator) A device used to convert a digital signal from a micro-processor (Control Module, Computer, etc.) to an analog signal for transmission over a network (telephone line, LAN, etc.) The Control Module has an on-board modem for communicating via dialer or direct line to Central Monitoring Stations, or via dialer line to a PC. External Modems can also be connected to UART Ports if required.
MODULE	Module is the general term used for any device that connects to the system LAN to form part of the system, and includes LCD Terminals, Several types of Expander Modules, Reader (Door) Modules and Analogue Input Modules.
PANIC	A Panic alarm can be activated by a User by pressing the <HELP> key 3 times in quick succession.
PIN CODE	A unique numerical code of 1 to 8 digits, allocated to any user in the system who is required to perform functions at an LCD Terminal or Keypad.
POLL/POLLING	The process of a central controller expecting to receive a regular message from all remote Modules. Utilized on the system to monitor the presence of all modules on the LAN, thereby ensuring the LAN integrity.
PORT	A microprocessor interface (on a Control Module, Computer, etc.) that allows connection of an external device. e.g. Printer, Modem, Computer, Monitor, Securitell interface, etc.
PRIMARY ENTRY ZONE	A type of Input (defined in the Process Group) that will start an Entry delay timer running when a User first enters an Area. (See "Entry Delay")
PROCESS GROUP	Process Groups are programmed to define how Inputs (zones & system inputs) will be processed. Every Input in an Area is assigned a Process Group to determine what processing (if any) will take place when the input changes state in that Area. (States include: Seal, Alarm, Tamper and Isolate)
PULSE COUNT	An option in Process Group programming that requires an Input to register a specified number of Seal to Alarm transitions within a specified time before it will be regarded as being in alarm. The number of pulses, and time are defined in Area programming if required.
READER	General term for a variety of card, insert key, biometric readers, etc. which may be utilized on the system to access Doors, access Lifts, Login, Logout, etc. Includes Magnetic swipe or insert, Proximity, Wiegand, Barcode, Hand geometry, Fingerprint, or even high security scrambling Wiegand Keypads.

REED (or REED-SWITCH)	(Also known as “Door Contact”) Switch Contact activated with the presence of a magnetic field. Used to indicate the status of a Door/Window etc.
REN	(Request to Enter) Typically a button provided to unlock a door from the outside, bypassing the need to use a reader during low security periods.
REX	(Request to Exit) Typically a button provided to unlock a door from the inside either bypassing the need to use a reader during low security periods, or because an internal (exit) reader is not required. The “REX” device can also be a PIR or Photo-Electric beam to detect the User approaching the door.
REVIEW	Log of alarms and events that can be viewed at an LCD Terminal or PC. Each event is time/date stamped and programming options allow the installer to define which events are not logged. Number of events stored varies from 300 to 6500 depending on memory size fitted and memory configuration selected.
SECURITEL	Communications format used in Australia. Allows reporting of alarms and other system activity to a Central Station using a normal PSTN Telephone line, but providing a supervisory polling system for added security. (Requires interface unit)
SITE CODE	Used in conjunction with certain types of access control cards to identify a particular batch of cards when using the Site Code method. The system allows multiple Site Codes to be programmed.
SPREADNET	Spread-spectrum Wireless detector system from C&K Systems. The SpreadNet Receiver can be directly connected to a UART Serial Port on the Control Module, allowing up to 208 Wireless Zones to be monitored without any additional wiring. (V2 or later)
SUB AREA	A Sub Area can be defined for each Area in the system, allowing a common Area to be controlled (turned On and Off) by other Areas.
SYSTEM INPUT	System inputs are activated when specific conditions occur on a Module. They are used to indicate situations such as Cabinet tamper, Siren tamper, AC fail, Low Battery, Fuse tamper, Communications problems, LAN problems, Panic, Duress, Door Open Too Long, etc. etc. Programming of Inputs and Areas will determine how the system will respond (generate an alarm, activate an auxiliary, etc.) when any system input changes state.
TAMPER	An abnormal condition on a zone input or other device connected to the Concept system that indicates that interference or damage has occurred to the device or it's cabling. e.g. Open circuit or Short circuit condition. The system can be programmed to provide 24Hr monitoring for the tamper condition.
TERMINAL	Device connected to the system via the LAN to allow user interface via keypad entry and alphanumeric display. e.g. Elite LCD Terminal.
TIMEZONE	A time period specified in terms of START time, END time, and valid DAY/S of the week. Four such periods can be specified in each TimeZone. TimeZones are utilized in many functions such as specifying the valid period of user access, groups and lists, and turning areas and auxiliaries on and/or off automatically.
UART	(Universal Asynchronous Receiver / Transmitter) A type of Port available on the Control Module providing connection for up to 4 external serial data devices. e.g. Printer, Modem, Computer, Monitor, Securitel interface, etc. 1, 2 or 4 UART port/s are provided by fitting an interface to the Control Module.

UNIVERSALEXPANDER MODULE (Zone Expander)	<i>See “Expander Module”.</i>
USER	Any person allocated a PIN code and/or card who is able to perform operations on the system.
USER RANK	A method utilized in the system to restrict which Users (if any) that another User may alter, and which User Types they may assign to another User.
USER TYPE	User Types are programmed to define the extent of Security system control, Access control and system operations allowed to particular types of users. e.g. Manager, Cleaner, Sales Staff etc. “Menu Groups”, various “Lists” and option settings are used to specify the exact level of control, access and other operations available.
ZONE (or ZONE INPUT)	A physical Input on any Module in a Concept system. Zone inputs are used for connecting detection devices (PIRs, Door/Window Reeds, Photoelectric beams, etc.), Keyswitches, “Request to Exit” buttons, Smoke detectors, Seismic detectors, etc., etc. Programming of Inputs and Areas will determine how the system will respond (generate an alarm, activate an auxiliary, etc.) when any zone input changes state.
ZONE DE-BOUNCE	<p>All inputs on the majority of Security and Access control systems incorporate Zone de-bounce to minimize false alarms due to voltage spikes induced onto cabling. In this product, De-bounce simply requires that when a Zone input changes state, it must remain in the new state for at least 200 - 400 mS (depending on module type) before the change will be recognized.</p> <p>Applications requiring faster de-bounce times are catered for in Mini Expander Modules that have programmable de-bounce for every zone, allowing for 16 different values between 5mS and 1250mS. (V2 or later) Universal Expander Modules have a DIPswitch setting that selects between 40mS and 400mS de-bounce for all Zones on the Module.</p>
ZONE EXPANDER	<i>See “Expander Module”.</i>